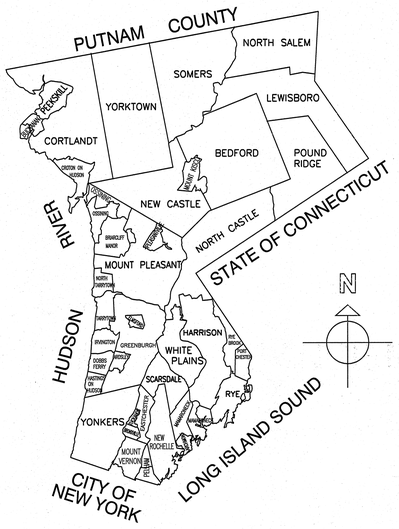
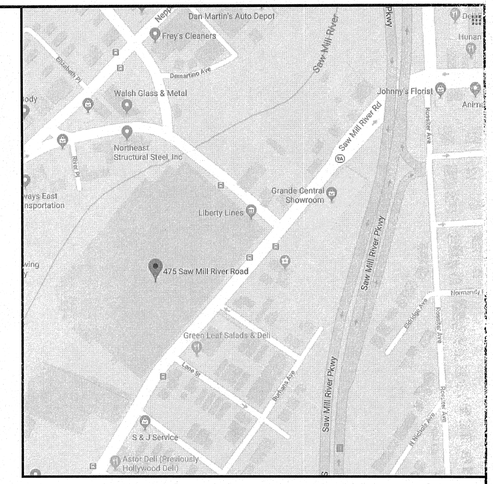


WESTCHESTER COUNTY

Westchester County

WESTCHESTER COUNTY, NEW YORK
DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION
DIVISION OF ENGINEERING

CONTRACT No. 22-524
REPLACEMENT OF HVAC SYSTEMS AND ASSOCIATED WORK
BEE-LINE CENTRAL MAINTENANCE FACILITY (DOT-CMF)
YONKERS, NEW YORK



LOCATION MAP
SCALE: N.T.S.

SHEET NO.	SHEET TITLE	DPW FILE NO.
T-1	TITLE SHEET	61-10-T-405-0
ARCHITECTURAL		
A-1	ROOF PENETRATION DETAILS	61-10-A-406-0
A-2	PART. REFL. CEILING PLANS AND DETAILS	61-10-A-407-0
STRUCTURAL		
S-1	DUNNAGE LOCATION PLAN & STRUCTURE DETAILS	61-10-S-408-0
S-2	UNIT DUNNAGE FRAMING PLANS AND SECTIONS	61-10-S-409-0
PLUMBING		
P-1	PLUMBING NOTES, DETAILS AND LEGEND	61-10-P-410-0
P-2	NEW WORK PART PLANS	61-10-P-411-0
HVAC		
HV-1	HVAC NOTES, DETAILS AND LEGEND	61-10-HV-412-0
HV-2	OFFICE AREA PLANS: 1ST FLR, MEZZANINE, & 2ND FLR	61-10-HV-413-0
HV-3	COMPUTER ROOM AND CLEANER'S LOUNGE PLANS	61-10-HV-414-0
HV-4	RADIO EQUIPMENT AND SERVER ROOM PLANS	61-10-HV-415-0
HV-5	DETAILS 1	61-10-HV-416-0
HV-6	DETAILS 2	61-10-HV-417-0
HV-7	SCHEDULES	61-10-HV-418-0
HV-8	CONTROL SYSTEM ARCHITECTURE AND NOTES	61-10-HV-419-0
HV-9	CONTROL PLAN	61-10-HV-420-0
ELECTRICAL		
E-1	LOCATIONS OF HVAC WORK	61-10-E-421-0
E-2	1ST FLOOR OFFICES AND 2ND FLOOR AC-2 & AC-5 PART PLANS	61-10-E-422-0
E-3	CLEANER'S LOUNGE, SERVER ROOM AND ROOF PLANS	61-10-E-423-0
E-4	PANEL SCHEDULES	61-10-E-424-0
E-5	DETAILS AND ELEVATIONS	61-10-E-425-0

CODE COMPLIANCE NOTES

1. IT IS INTENDED THAT THE DESIGN FOR THIS PROJECT MEET EVERY REQUIREMENT OF THE LATEST STATE ENERGY CODE ADOPTED BY THE STATE OF NEW YORK WHICH, IS CURRENTLY **ASHRAE STD. 90.1-2016 (AS AMENDED).**
2. CONTRACTOR SHALL PERFORM AIR LEAKAGE TESTING ON ALL DUCTWORK ROUTED OUTSIDE OF THE SPACE CONDITINED BY DUCTWORK SYSTEMS AND MODIFIED UNDER THIS CONTRACT.
3. [6.4.3.4.2]CHECK LEAKAGE RATES OF EXISTING OA DAMPERS
4. INSULATION OUTSIDE OF THE CONDITIONED SPACES & ASSOCIATED WITH COOLING SYSTEMS SHALL BE VAPOR RETARDANT.
5. THERMALLY INEFFECTIVE PANEL SURFACES SHALL HAVE INSULATION >/= 3.5. **SPECIFIED UNIT SHALL PROVIDE CASING WITH MINIMUM THERMAL RESISTANCE (R-VALUE) OF 13 HR-FT2/-°F/BTU.**
6. DUCTS & PLENUMS HAVING PRESSURE CLASS RATINGS SHALL BE SEAL CLASS A CONSTRUCTION.
7. DISPERSION TUBE HOT SURFACES SHALL BE INSULATED TO R >/= .5
8. PRE-HEAT COIL CONTROLS SHALL BE LOCKED OUT OF PROVIDING HEAT OUTPUT WHENEVER MECHANICAL COOLING IS IN OPERATION; INCLUDING ECONOMIZER.
9. THERMOSTATIC CONTROLS SHALL BE PROVIDED WITH A 5 DEG DEADBAND.
10. CONTRACTOR SHALL PROVIDE SETPOINT OVERLAP RESTRICTIONS FOR TERMPERATURE CONTROLS.
11. [6.4.3.6]SIMULTANEOUS HUMIDIFICATION AND DEHUMIDIFICATION SHALL BE PROHIBITED BY CONTRACTOR PROVIDED PROGRAMMING. HUMIDITY CONTROL SHALL LIMIT RH FROM EXCEEDING 30% IN THE WARMEST ZONE HUMIDIFIED & RH FROM DROPPING BELOW 60% IN THE COLDEST ZONE DEHUMIDIFIED. CONTRACTOR SHALL PROGRAM ACCORDINGLY.
12. ELECTRIC MOTORS SHALL MEET REQUIREMENTS WHERE APPLICABLE
13. [6.7.2.1]CONTRACTOR SHALL FURNISH HVAC AS-BUILTS </= 90 DAYS FROM ACCEPTANCE.
14. [6.7.2.1]CONTRACTOR SHALL FURNISH O&M MANUALS </= 90 DAYS FROM ACCEPTANCE.

IN CHARGE OF JAI PUNNOOSE, P.E.
CHECKED BY
MADE BY VINCENT LEONE, P.E.

REVISION NUMBER	DATE	MADE BY	APP'D BY	REVISION

RECORD DRAWING CERTIFICATION

☐ AS BUILT – CHANGES AS NOTED
☐ AS BUILT – NO CHANGES

CONTRACTOR
NAME
SIGNATURE
TITLE DATE

PROJECT COORDINATOR
NAME
SIGNATURE
TITLE DATE

11/21/23	11/21/23	11-21-2023
RECOMMENDED FOR CONSTRUCTION DATE	RECOMMENDED FOR CONSTRUCTION DATE	RECOMMENDED FOR CONSTRUCTION DATE
JAI PUNNOOSE, P.E. ASSOCIATE ENGINEER DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION	GEORGE RITACCO, R.A., LEED AP DIRECTOR OF DESIGN COORDINATION DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION	GAYLE M. KATZMAN, P.E. FIRST DEPUTY COMMISSIONER DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION

11/27/23
APPROVED FOR CONSTRUCTION DATE
HUGH J. GREECHAN JR., P.E. COMMISSIONER DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION

WESTCHESTER COUNTY, NEW YORK
DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION
DIVISION OF ENGINEERING

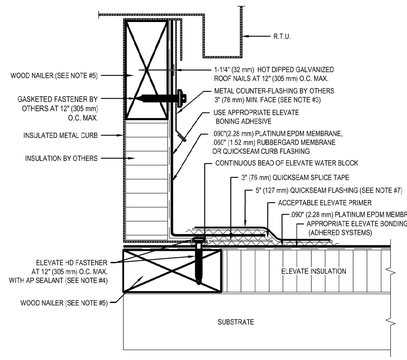
REPLACEMENT OF HVAC SYSTEMS AND ASSOCIATED WORK
BEE-LINE CENTRAL MAINTENANCE FACILITY (DOT-CMF)
475 SAW MILL RIVER ROAD, YONKERS, NEW YORK
TITLE SHEET

CONTRACT NUMBER	SHEET NUMBER
22-524	T-1
SHEET NO. 1 OF 21	
SCALE: AS SHOWN DATE: 12/1/2023	
DPW FILE NO. 61-10-T-405	REV. NO. 0

TERMINATION AT R.T.U. WITH COUNTER-FLASHING (UNIT FLANGE ABOVE MEMBRANE) — DETAIL NO. PT-8

MATERIAL: RUBBERGARD™ PLATINUM | ACCEPTABLE SYSTEMS: PLATINUM | ISSUE / REVISION DATE: 12/08/2022 | NOT TO SCALE

(800) 428-4511 www.holcimelevate.com | MAXIMUM WARRANTY: 30 YEARS



NOTE:
1. REFER TO ELEVATE WEBSITE FOR MOST CURRENT INFORMATION.
2. NAILING AND METAL COUNTER-FLASHING ARE NOT REQUIRED IF MEMBRANE IS RUN UP AND OVER CURB WALLS PRIOR TO INSTALLATION OF R.T.U.
3. METAL COUNTER-FLASHING SHALL BE 24 GAUGE PRE-FINISHED STEEL OR .032" MIN. ALUMINUM FORMED WITH HEMMED LOWER EDGE MOUNTED TIGHTLY TO UNDERSIDE OF MECHANICAL UNIT.
4. ELEVATE FASTENER WITH AP SEALANT OVER FASTENER HEADS. AP SEALANT ALSO REQUIRED ALONG ENTIRE EDGE OF CURB FLANGE.
5. WOOD NAILER MUST BE INSTALLED TO MEET APPLICABLE BUILDING CODES OR 200 LB PER LINEAR FOOT MINIMUM IN ANY GIVEN DIRECTION.
6. INSTALL METAL WORK IN ACCORDANCE WITH CURRENT SMACNA RECOMMENDATIONS.
7. 6" QUICKSEAM SPLICE TAPE MAY BE USED IN LIEU OF 3" (76 mm) TAPE AND 5" (127 mm) QUICKSEAM FLASHING COVER STRIP. (REFER TO DETAIL PLS-1a)

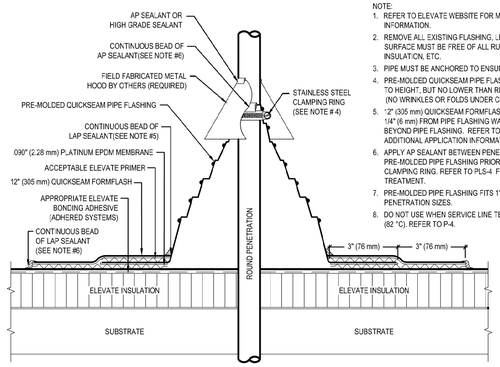
NOTE: CURB FURNISHED AND INSTALLED BY R.T.U. MANUFACTURER. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS THAT SHOW RELATIONSHIP BETWEEN CURB AND NEW DUNNAGE AS DETAILED ON STRUCTURAL DRAWINGS

A A-1 RTU FLASHING DETAIL
N. T. S.

PENETRATION WITH QUICKSEAM PIPE FLASHING — DETAIL NO. PP-1

MATERIAL: RUBBERGARD™ PLATINUM | ACCEPTABLE SYSTEMS: PLATINUM | ISSUE / REVISION DATE: 12/06/2022 | NOT TO SCALE

(800) 428-4511 www.holcimelevate.com | MAXIMUM WARRANTY: 30 YEARS



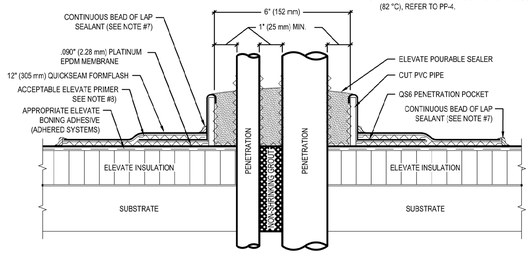
NOTE:
1. REFER TO ELEVATE WEBSITE FOR MOST CURRENT INFORMATION.
2. REMOVE ALL EXISTING FLASHING, LEADS, ETC. PIPE SURFACE MUST BE FREE OF ALL RUST, GREASE, INSULATION, ETC.
3. PIPE MUST BE ANCHORED TO ENSURE STABILITY.
4. PRE-MOLDED QUICKSEAM PIPE FLASHING MAY BE CUT TO HEIGHT, BUT NO LOWER THAN REINFORCING RING (NO WRINKLES OR FOLDS UNDER CLAMPING RING).
5. 12" (305 mm) QUICKSEAM FORMFLASH EXTENDING 1/4" (6 mm) FROM PIPE FLASHING WALL TO 3" (76 mm) BEYOND PIPE FLASHING. REFER TO PP-8 FOR ADDITIONAL APPLICATION INFORMATION AND OPTIONS.
6. APPLY AP SEALANT BETWEEN PENETRATION AND PRE-MOLDED PIPE FLASHING PRIOR TO INSTALLATION OF CLAMPING RING. REFER TO PLS-4 FOR SEAM EDGE TREATMENT.
7. PRE-MOLDED PIPE FLASHING FITS 1" (25 mm) - 6" (152 mm) PENETRATION SIZES.
8. DO NOT USE WHEN SERVICE LINE TEMP. EXCEEDS 180 °F (82 °C). REFER TO P-4.

B A-1 ROOF PENETRATION DETAIL
N. T. S.

PENETRATION WITH QS6 PENETRATION POCKET — DETAIL NO. PP-5

MATERIAL: RUBBERGARD™ PLATINUM | ACCEPTABLE SYSTEMS: PLATINUM | ISSUE / REVISION DATE: 12/06/2022 | NOT TO SCALE

(800) 428-4511 www.holcimelevate.com | MAXIMUM WARRANTY: 30 YEARS

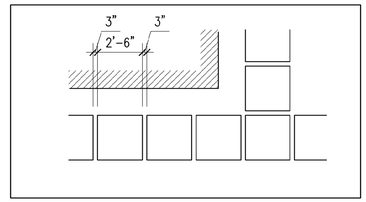


NOTE:
1. REFER TO ELEVATE WEBSITE FOR MOST CURRENT INFORMATION.
2. REMOVE ALL EXISTING FLASHING, LEADS, ETC. PIPE SURFACE MUST BE FREE OF ALL RUST, GREASE, INSULATION, ETC.
3. DO NOT USE OVER EXISTING PENETRATION POCKETS.
4. IF FIELD MEMBRANE IS CUT FOR INSTALLATION, THE MEMBRANE MUST BE REPAIRED WITH CURED EPDM PRIOR TO INSTALLATION OF THE PENETRATION POCKET.
5. MEMBRANE MUST BE INSTALLED WITHIN 1/2" (13 mm) OF PENETRATION.
6. ELEVATE POURABLE SEALER MOUNDED TO SHED WATER (MINIMUM DEPTH OF 2" (51 mm), REMAINDER OF POCKET MAY BE FILLED WITH A NON - SHRINKING GROUT).
7. APPLY LAP SEALANT AROUND ENTIRE PERIMETER OF FLASHING. REFER TO PLS-4 FOR SEAM EDGE TREATMENT.
8. ACCEPTABLE ELEVATE PRIMER IS REQUIRED ON PENETRATIONS AND MEMBRANE INSIDE OF PENETRATION POCKET.
9. DO NOT USE WHEN SERVICE LINE TEMP. EXCEEDS 180 °F (82 °C). REFER TO PP-4.

C A-1 PITCH POCKET DETAIL
N. T. S.

ROOFING NOTES

1. EXISTING ROOF IS UNDER FIRESTONE PLATINUM-PHW ROOFING SYSTEM LIMITED WARRANTY
2. CONTRACTOR SHALL CONTACT FIRESTONE TO FAMILIARIZE AND EXECUTE ALL WORK IN COMPLIANCE WITH FIRESTONE REQUIREMENTS TO MAINTAIN EXISTING ROOF WARRANTY
3. CONTACT FIRESTONE AT 800-830-5612. DOWNLOAD POST WARRANTY ALTERATION FORM FROM WWW.FIRESTONEBPCOUSA.COM WEBSITE AND SUBMIT WITH REQUIRED DOCUMENTS TO FIRESTONE FOR SUCCESSFUL REVIEW OF COMPLETED WORK.
4. ALL ROOF PENETRATIONS SHALL MAINTAIN EXISTING ROOF WARRANTY
5. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS THAT ARE FULLY COORDINATED BETWEEN NEW MECHANICAL EQUIPMENT, EXISTING AND NEW STRUCTURAL MEMBERS AND FLASHINGS WITH ALL PERTAINING DIMENSIONAL DATA AND INCLUDE ALL SURROUNDING EXISTING CONDITIONS



NOTES

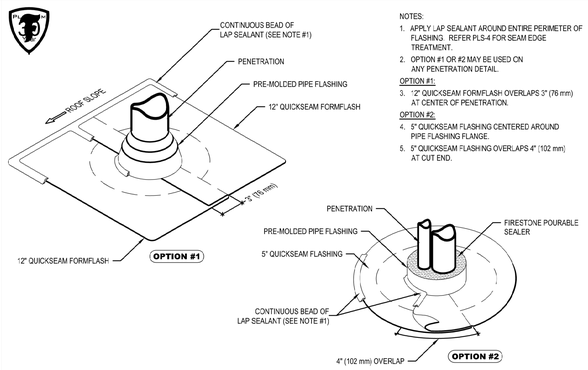
1. PROVIDE WALKWAY PATH MADE UP OF ROOF WALKWAY PADS AROUND AND 18 INCHES AWAY FROM ALL NEW MECHANICAL EQUIPMENT AND CONNECTING TO EXISTING WALKWAY PATH.
2. ROOF WALKWAY PADS: BLACK: EPDM, 0.30 " (7.6 MM) THICK BY 30 " X 30 " (760 MM X 760 MM) WITH EPDM TAPE ADHESIVE STRIPS LAMINATED TO THE BOTTOM; QUICKSEAM ™ WALKWAY PADS OR WHITE: WHITE EPDM, 0.30 " (7.6 MM) THICK BY 30 " X 30 " (760 MM X 760 MM) WITH EPDM TAPE ADHESIVE STRIPS LAMINATED TO THE BOTTOM; ECOWHITE ™ QUICKSEAM ™ WALKWAY PADS BY ELEVATE.

F A-1 WALKWAY DETAIL
1/4"=1'-0"

NOTES:
1. APPLY LAP SEALANT AROUND ENTIRE PERIMETER OF FLASHING. REFER PLS-4 FOR SEAM EDGE TREATMENT.
2. OPTION #1 OR #2 MAY BE USED ON ANY PENETRATION DETAIL.

OPTION #1:
3. "Z" QUICKSEAM FORM/FLASH OVERLAPS 3" (76 mm) AT CENTER OF PENETRATION.

OPTION #2:
4. 5" QUICKSEAM FLASHING CENTERED AROUND PIPE FLASHING FLANGE.
5. 5" QUICKSEAM FLASHING OVERLAPS 4" (102 mm) AT CUT END.



MAXIMUM WARRANTY: **30 YEARS**

Firestone BUILDING PRODUCTS NOBODY COVERS YOU BETTER.™ www.firestonebpco.com

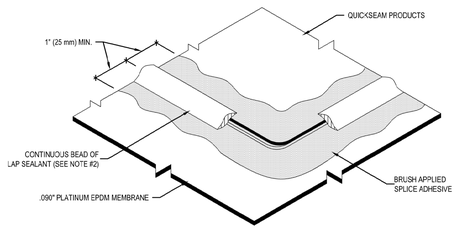
PENETRATION COVER STRIP OPTIONS FOR QUICKSEAM PRE-MOLDED FLASHINGS — DETAIL NO. PP-8

RUBBERGARD™ PLATINUM | ACCEPTABLE SYSTEMS: PLATINUM | ISSUE / REVISION DATE: 6/16/2014 | NOT TO SCALE

D A-1 PRE-MOLDED FLASHING DETAIL
N. T. S.

NOTE:
1. REFER TO FIRESTONE WEBSITE FOR MOST CURRENT INFORMATION.
2. ALLOW SPLICE ADHESIVE TO FLASH OFF BEFORE APPLYING LAP SEALANT.
3. USE QUICKPRIME PLUS TO CLEAN AND PRIME EPDM MATING SURFACES PRIOR TO INSTALLATION OF QUICKSEAM PRODUCTS.

SEAM EDGE TREATMENT AT LAP SPLICE



MAXIMUM WARRANTY: **30 YEARS**

Firestone BUILDING PRODUCTS NOBODY COVERS YOU BETTER.™ www.firestonebpco.com

SEAM EDGE TREATMENT APPLICATION — DETAIL NO. PLS-4

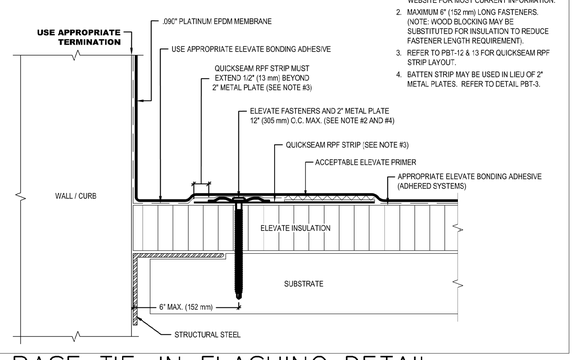
RUBBERGARD™ PLATINUM | ACCEPTABLE SYSTEMS: PLATINUM | ISSUE / REVISION DATE: 6/16/2014 | NOT TO SCALE

E A-1 SEAM EDGE TREATMENT APPLICATION
N. T. S.

BASE TIE-IN WITH QUICKSEAM RPF AND 2" METAL PLATES WITH DECK CONSTRUCTION — DETAIL NO. PBT-5

MATERIAL: RUBBERGARD™ PLATINUM | ACCEPTABLE SYSTEMS: PLATINUM | ISSUE / REVISION DATE: 11/22/2022 | NOT TO SCALE

(800) 428-4511 www.holcimelevate.com | MAXIMUM WARRANTY: 30 YEARS



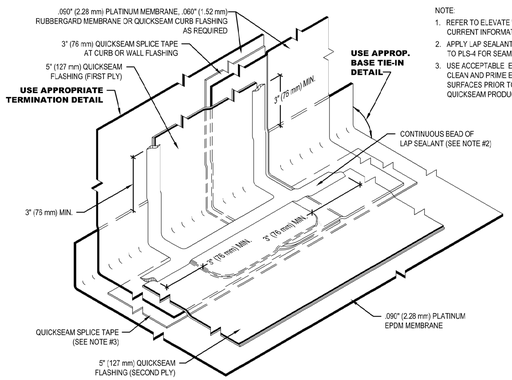
NOTE:
1. REFER TO WWW.HOLCIMELEVATE.COM WEBSITE FOR MOST CURRENT INFORMATION.
2. MAXIMUM 6" (152 mm) LONG FASTENERS. (NOTE: WOOD BLOCKING MAY BE SUBSTITUTED FOR INSULATION TO REDUCE FASTENER LENGTH REQUIREMENT).
3. REFER TO PBT-12 & 13 FOR QUICKSEAM RPF STRIP LAYOUT.
4. BATTEN STRIP MAY BE USED IN LIEU OF 2" METAL PLATES. REFER TO DETAIL PBT-3.

F A-1 BASE TIE-IN FLASHING DETAIL
N. T. S.

LAP SPLICE AT CURB OR WALL FLASHING USING 5" QUICKSEAM FLASHING — DETAIL NO. PLS-6

MATERIAL: RUBBERGARD™ PLATINUM | ACCEPTABLE SYSTEMS: PLATINUM | ISSUE / REVISION DATE: 12/06/2022 | NOT TO SCALE

(800) 428-4511 www.holcimelevate.com | MAXIMUM WARRANTY: 30 YEARS



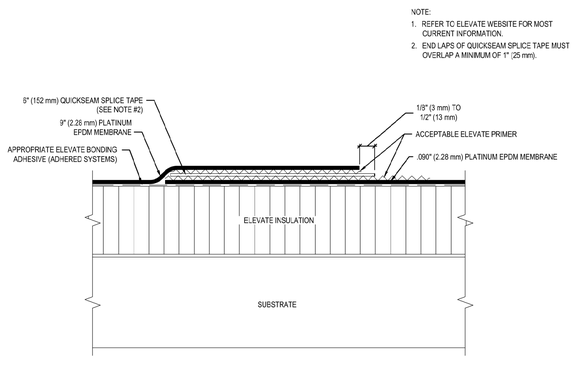
NOTE:
1. REFER TO ELEVATE WEBSITE FOR MOST CURRENT INFORMATION.
2. APPLY LAP SEALANT AS SHOWN, REFER TO PLS-4 FOR SEAM EDGE TREATMENT.
3. USE ACCEPTABLE ELEVATE PRIMER TO CLEAN AND PRIME EPDM MATING SURFACES PRIOR TO INSTALLATION OF QUICKSEAM PRODUCTS.

G A-1 LAP SPLICE AT CURB FLASHING
N. T. S.

LAP SPLICE — DETAIL NO. PLS-1A

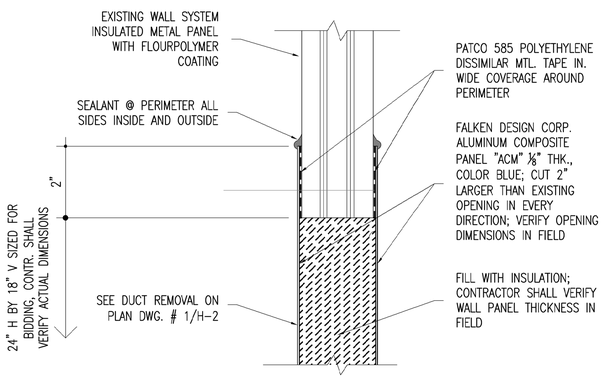
MATERIAL: RUBBERGARD™ PLATINUM | ACCEPTABLE SYSTEMS: PLATINUM | ISSUE / REVISION DATE: 12/06/2022 | NOT TO SCALE

(800) 428-4511 www.holcimelevate.com | MAXIMUM WARRANTY: 30 YEARS



NOTE:
1. REFER TO ELEVATE WEBSITE FOR MOST CURRENT INFORMATION.
2. END LAPS OF QUICKSEAM SPLICE TAPE MUST OVERLAP A MINIMUM OF 1" (25 mm).

H A-1 LAP SPLICE DETAIL
N. T. S.



EXISTING COMPOSITE PANEL CLOSURE DETAIL – 4 SIDES
I A-1 SCALE: 6" = 1'-0"

IN CHARGE OF JAI PUNNOOSE, P.E.
CHECKED BY ADAM KAPLINSKI, R.A.
MADE BY ALEXIS GARCIA

REVISION NUMBER	DATE	MADE BY	APP'D BY	REVISION

RECORD DRAWING CERTIFICATION
☐ AS BUILT – CHANGES AS NOTED
☐ AS BUILT – NO CHANGES

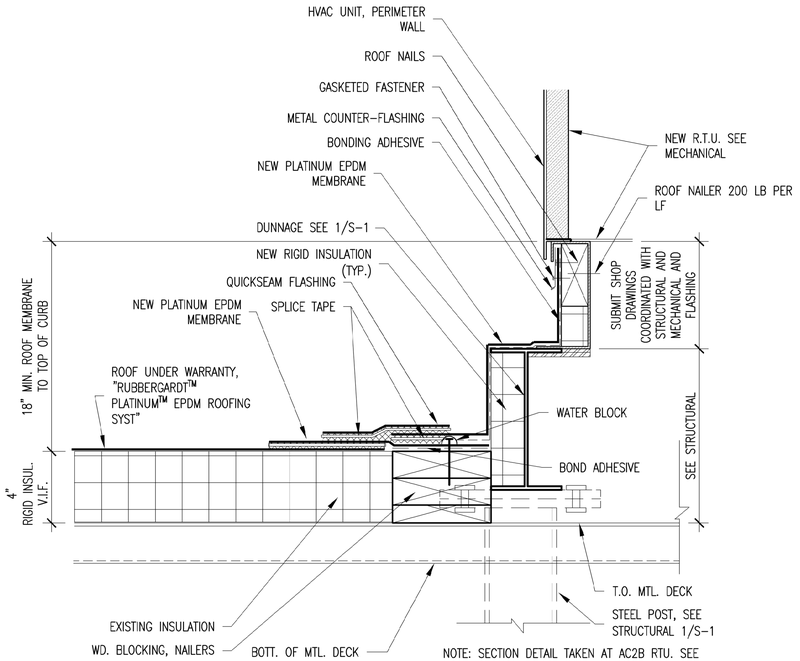
CONTRACTOR: NAME ____ SIGNATURE ____ TITLE ____ DATE ____

PROJECT COORDINATOR: NAME ____ SIGNATURE ____ TITLE ____ DATE ____

WESTCHESTER COUNTY, NEW YORK
DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION
DIVISION OF ENGINEERING

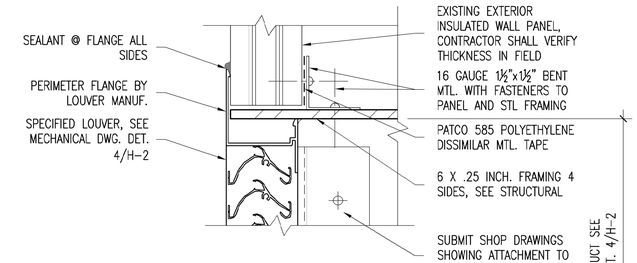
REPLACEMENT OF HVAC SYSTEMS AND ASSOCIATED WORK
BEE-LINE CENTRAL MAINTENANCE FACILITY (DOT-CMF)
475 SAW MILL RIVER ROAD, YONKERS, NEW YORK
ROOF AND WALL PENETRATION DETAILS

CONTRACT NUMBER 22-524 | SHEET NUMBER A-1
SHEET NO. 2 OF 21
SCALE: AS NOTED
DATE: 12/1/2023
DPW FILE NO. 61-10-A-406 | REV. NO.

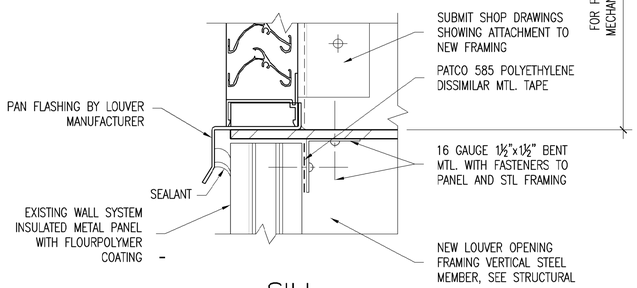


NOTE: SECTION DETAIL TAKEN AT AC2B RTU. SEE DUNNAGE STRUCTURAL DETAIL 1/S-1. AC6 UNIT SIMLAR. FOR FLASHING ADDITIONAL INFORMATION SEE DETAIL A/A-3

A A-2 RTU CURB DETAIL
3"=1'-0"



HEAD / JAMB SIM.

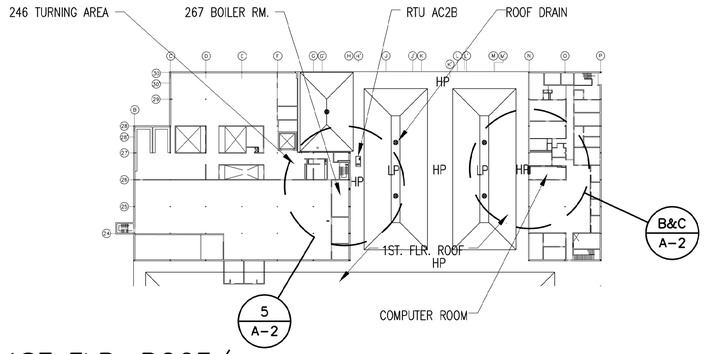


SILL

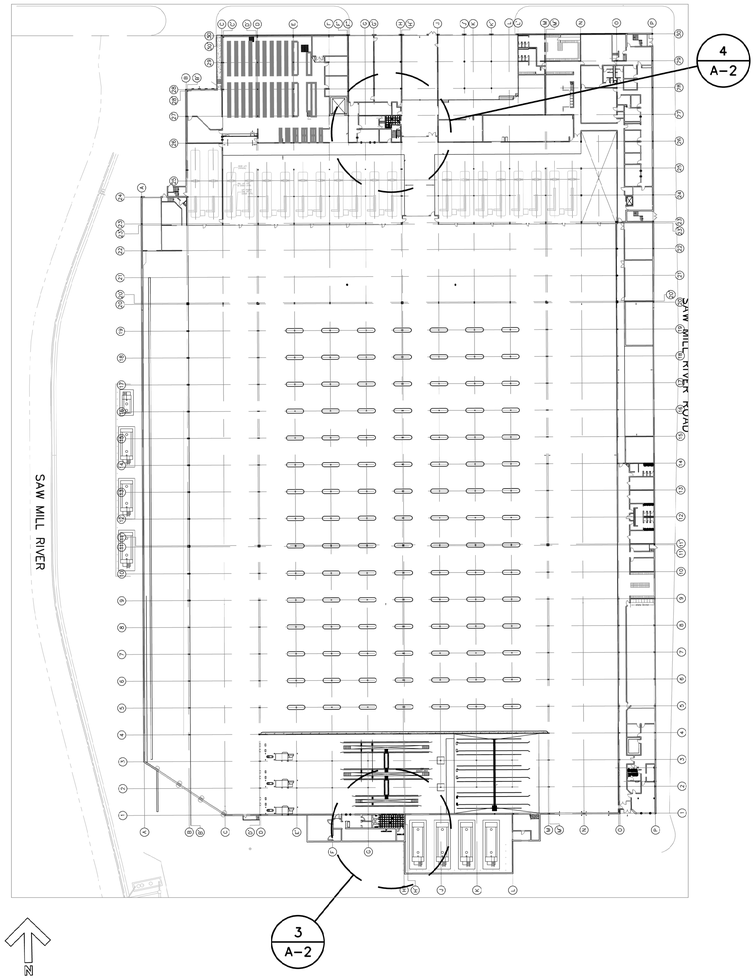
L A-2 LOUVER DETAIL@ BOILER RM267
SCALE: 6" = 1'-0"

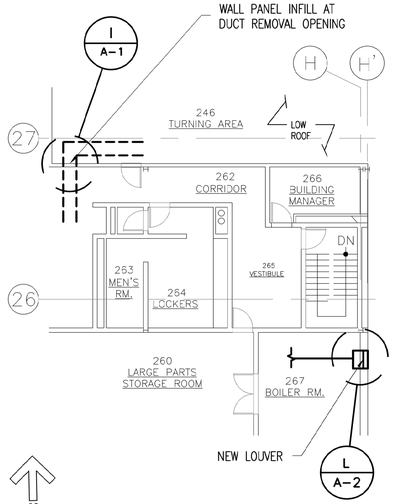
LEGEND

- DEMO EXISTING ACOUSTICAL CEILING TILE SYSTEM
- NEW GRID HANGING SYSTEM, 2' X 2' LAY-IN TILE AND GRID CAREFULLY LOCATED TO CENTER EXISTING SPRINKLERS IN TILE
- EXISTING LOCATION OF SPRINKLER HEAD
- REMOVE AND REINSTALL EXISTING 2' X 4' LAY-IN LIGHT FIXTURE AND HANGERS AS REQUIRED
- (SD) REMOVE AND REINSTAL EXISTING SMOKE DETECTOR
- (SP) REMOVE AND REINSTAL EXISTING CEILING RECESSED MOUNTED LOUDSPEAKER
- REMOVE EXISTING DIFFUSER; NEW RETURN DIFFUSER, SEE MECHANICAL FOR SCOPE OF WORK AND SPECIFICATION
- REMOVE EXISTING DIFFUSER; NEW SUPPLY DIFFUSER, SEE MECHANICAL FOR SCOPE OF WORK AND SPECIFICATION



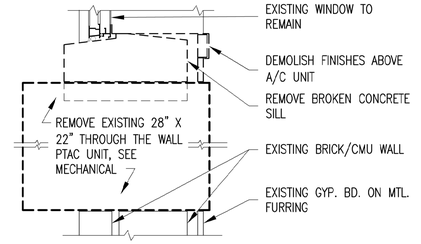
2 A-2 1ST FLR. ROOF / 2ND FLR. KEY PLAN
SCALE: 1/64" = 1'-0"



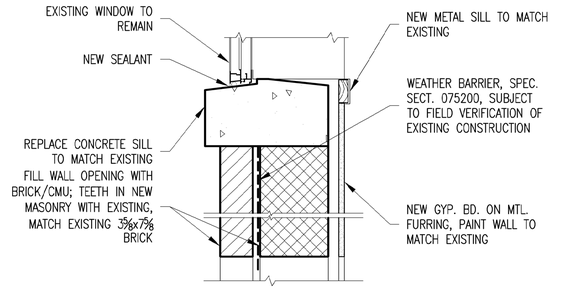


5 A-2 2ND FLOOR PART PLAN
SCALE: 3/32" = 1'-0"

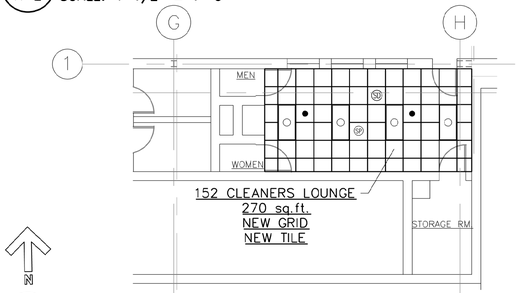
1 A-2 1ST FLR KEY PLAN
SCALE: 1/64" = 1'-0"



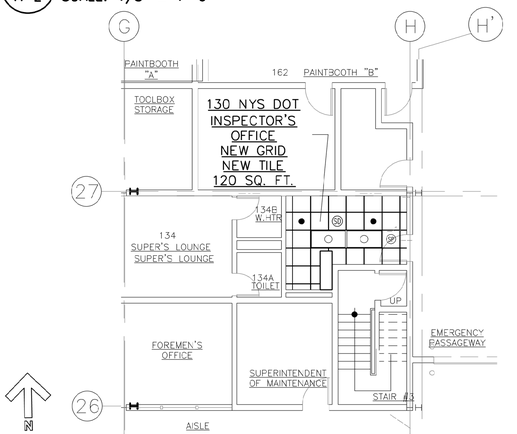
B A-2 A/C REMOVAL DETAIL
SCALE: 1-1/2" = 1'-0"



C A-2 WALL CLOSURE DETAIL
SCALE: 1-1/2" = 1'-0"



3 A-2 1ST FLR. PART REFL. CLNG. PLAN
SCALE: 1/8" = 1'-0"



4 A-2 1ST FLR. PART REFL. CLNG. PLAN
SCALE: 1/8" = 1'-0"

REVISION NUMBER	DATE	MADE BY	APP'D BY	REVISION

RECORD DRAWING CERTIFICATION
- ☐ AS BUILT – CHANGES AS NOTED
- ☐ AS BUILT – NO CHANGES

CONTRACTOR: NAME ____ SIGNATURE ____ TITLE ____ DATE ____

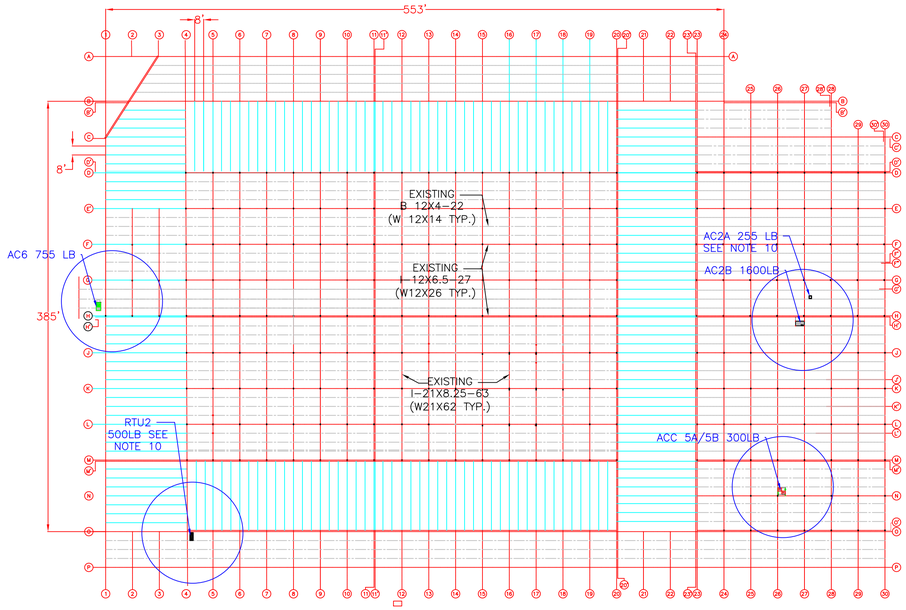
PROJECT COORDINATOR: NAME ____ SIGNATURE ____ TITLE ____ DATE ____

IN CHARGE OF JAI PUNNOOSE, P.E.
CHECKED BY ADAM KAPLINSKI, R.A.
MADE BY ALEXIS GARCIA

WESTCHESTER COUNTY, NEW YORK
DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION
DIVISION OF ENGINEERING

REPLACEMENT OF HVAC SYSTEMS AND ASSOCIATED WORK
BEE-LINE CENTRAL MAINTENANCE FACILITY (DOT-CMF)
475 SAW MILL RIVER ROAD, YONKERS, NEW YORK
PART REFLECTED CEILING PLANS AND DETAILS

CONTRACT NUMBER	SHEET NUMBER
22-524	A-2
SHEET NO. 3 OF 21	
SCALE: AS NOTED DATE: 12/1/2023	
DPW FILE NO. 61-10-A-407	REV. NO.



DUNNAGE LOCATION PLAN

1/32"=1'-0"

NOTES:

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE FOLLOWING APPLICABLE CODES AND STANDARDS: ASTM, AWS, BUILDING CODES(NYS) AND AS PER MANUFACTURER'S INSTRUCTIONS.

2. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE FACT THAT, DUE TO THE NATURE OF THIS PROJECT, THE EXACT EXTENT OF RECONSTRUCTION WORK CANNOT ALWAYS BE ACCURATELY DETERMINED PRIOR TO THE COMMENCEMENT OF WORK. THESE CONTRACT DOCUMENTS HAVE BEEN PREPARED BASED ON FIELD VISUAL INSPECTIONS AND OTHER INFORMATION AVAILABLE AT THE TIME. ACTUAL FIELD CONDITIONS MAY REQUIRE MODIFICATIONS TO CONSTRUCTION DETAILS AND WORK QUANTITIES. SHOULD CONDITIONS DIFFER FROM THOSE DETAILED IN THESE DOCUMENTS, THE CONTRACTOR IS TO OBTAIN THE ENGINEER'S APPROVAL FOR ANY PROPOSED MODIFICATION OF WORK BEFORE PROCEEDING.

3. THE CONTRACTOR SHALL PERFORM ALL WORK WITH CARE SO THAT ANY MATERIALS WHICH ARE TO REMAIN IN PLACE WILL NOT BE DAMAGED. IF THE CONTRACTOR DAMAGES ANY MATERIALS WHICH ARE TO REMAIN IN PLACE, THE DAMAGED MATERIALS SHALL BE REPAIRED OR REPLACED IN A MANNER SATISFACTORY TO THE ENGINEER; ALL AT THE SOLE EXPENSE OF THE CONTRACTOR.

4. ALL HARDWARE TO BE GALV. U.O.N. ALL BOLTS TO BE A325 GALV. W/WASHER AND NUT U.O.N. S.S. HARDWARE SHALL BE GRADE 316

5. ROLLED SHAPES STEEL TO BE A.S.T.M. A-572-GRADE-50, PLATES TO BE A.S.T.M. A-36 AND TO BE GALVANIZED U.O.N. IN ACCORDANCE WITH ASTM A153.

6. ALL WELDS TO BE 3/8". ELECTRODES TO BE E70XX. ALL FIELD WELDING OR DRILLING AREAS SHOULD BE TOUCHED UP WITH 2-COATS ZINC RICH PAINT. ALL WELDERS MUST BE CERTIFIED PER AWS "STRUCTURAL WELDING CODE - STEEL" D1.1. PROVIDE CERTIFICATIONS THAT ALL WELDERS EMPLOYED FOR THIS PROJECT HAVE SATISFACTORILY PASSED AWS QUALIFICATION TESTS IN THE PAST 12 MONTHS

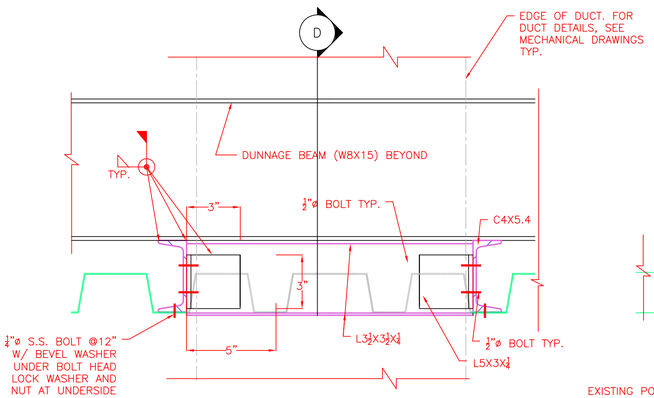
7. DESIGN WEIGHT:
   - AC2B = 1600 LB
   - ACC5A & ACC5B = 300 LB (EA.)
   - AC6 = 755 LB
   - RTU2 =500 LB
   - AC2A = 255 LB

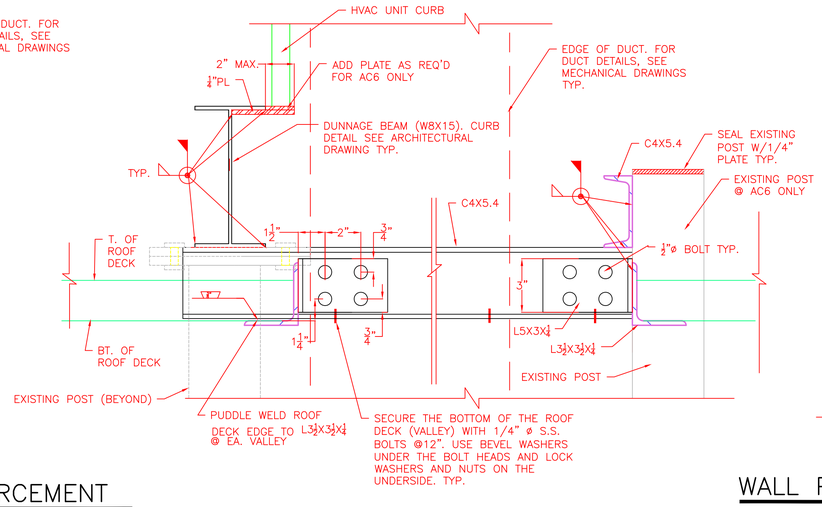
8. THE CONTRACTOR SHALL NOTE THAT PRIOR TO PERFORMING ANY WORK ASSOCIATED WITH THIS CONTRACT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EXAMINING AND VERIFYING THAT ALL STEEL SHAPES MATCH THOSE AS INDICATED ON THE DRAWING. .

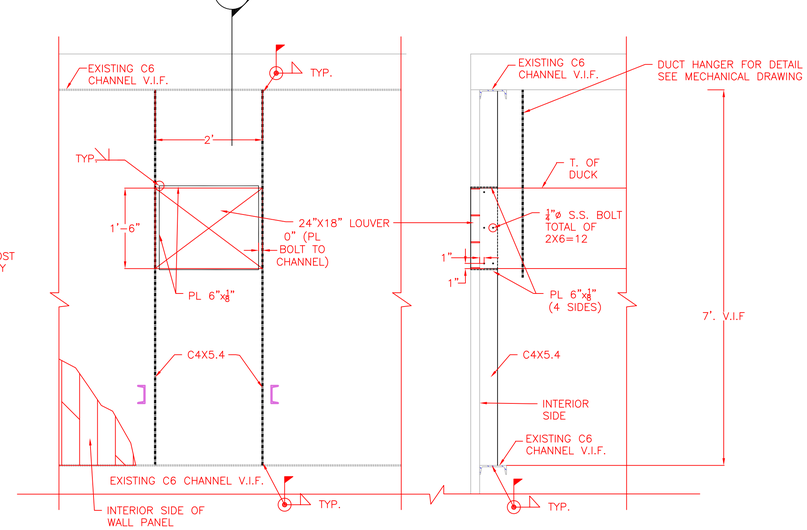
9. FOLLOWING THE FIELD VERIFICATION OF STEEL SHAPES CONFIRMING DIMENSIONS AND PHYSICAL CONDITIONS, THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR PROPOSED STEEL WORK FOR THE APPROVAL OF THE OWNERS DESIGN ENGINEER PRIOR TO THE START OF WORK. SHOP DRAWINGS FOR ALL STRUCTURAL STEEL WORK SHALL BE SIGNED AND SEALED BY A NYS LICENSED PROFESSIONAL ENGINEER.

10. THE AC2A AND RTU2 UNITS ARE SCHEDULED FOR REPLACEMENT WITH THE SAME WEIGHT UNITS AS LISTED ABOVE (CONTRACTOR TO VERIFY). THE SUPPORT FOR RTU2 IS ASSUMED TO BE IN GOOD CONDITION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO THOROUGHLY INSPECT THE EXISTING CONDITION AND PROMPTLY REPORT ANY SIGNS OF DETERIORATION TO THE ENGINEER. REPLACEMENT OF UNIT AC2 WILL BE WITH AN EQUIVALENT IN-KIND SUPPORT.

11. THE CONTRACTOR IS RESPONSIBLE FOR PLACING THE UNITS IN THE DESIGNATED LOCATION ACCORDING TO THE DESIGN AND SECURING THEM TO THE DESIGNATED DUNNAGE IN ACCORDANCE WITH THE NYS BUILDING CODE. THE CONTRACTOR SHALL PROVIDE CALCULATIONS, SEALED BY A LICENSED PROFESSIONAL ENGINEER, TO VALIDATE THIS PLACEMENT. FOR MORE COMPLETE INFORMATION, REFER TO THE ADDITIONAL GENERAL RIGGING NOTE ON MECHANICAL DRAWING HV-1.







TYP. ROOF OPENING REINFORCEMENT

1/S-1 2/S-1

3"=1'-0" (@HVAC DUCT PENETRATION)

NOTE: S-1 SHOWN, S-2 SIMILAR

NOTE:
1. CONTRACTOR TO BE RESPONSIBLE FOR MAKING ALL ROOF ASSEMBLY MODIFICATIONS. SEE ARCHITECTURAL DRAWING FOR DETAILS.
2. FOR CURB DETAILS SEE ARCHITECTURAL DRAWING. TYP.

SECTION D

3"=1'-0"

WALL PENETRATION DETAIL (ELEVATION)

3/4"=1'-0"

SECTION E

3"=1'-0"

IN CHARGE OF
CHECKED BY P. ABENAVOLI PE
MADE BY M HUANG PE

REVISION NUMBER	DATE	MADE BY	APP'D BY	REVISION

RECORD DRAWING CERTIFICATION

☐ AS BUILT - CHANGES AS NOTED
☐ AS BUILT - NO CHANGES

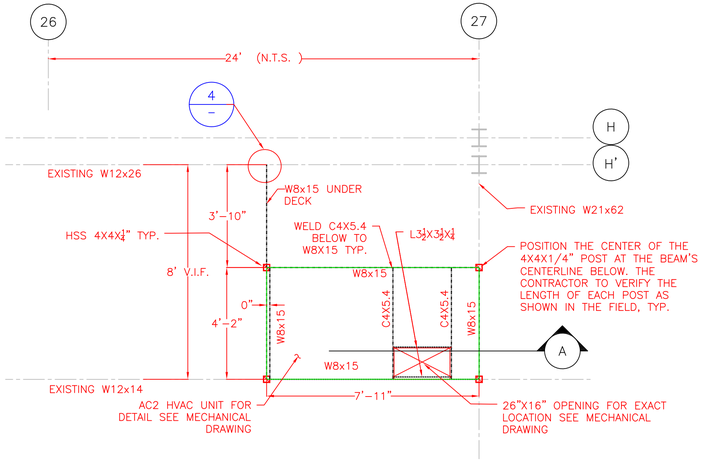
CONTRACTOR
NAME
SIGNATURE
TITLE DATE

PROJECT COORDINATOR
NAME
SIGNATURE
TITLE DATE

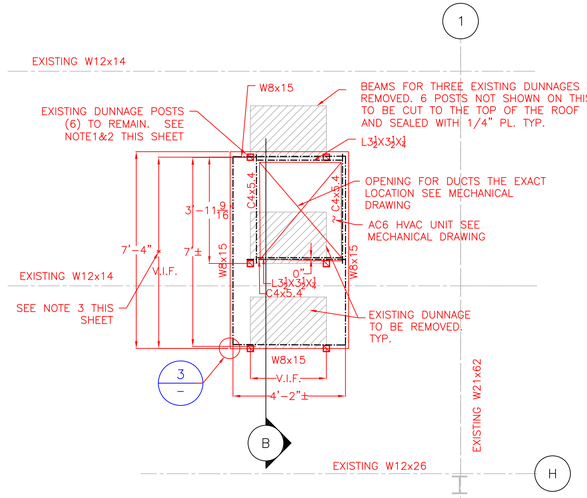
WESTCHESTER COUNTY, NEW YORK
DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION
DIVISION OF ENGINEERING

REPLACEMENT OF HVAC SYSTEMS AND ASSOCIATED WORK
BEE-LINE CENTRAL MAINTENANCE FACILITY (DOT-CMF)
475 SAW MILL RIVER ROAD, YONKERS, NEW YORK
DUNNAGE LOCATION PLAN & STRUCTURE DETAILS

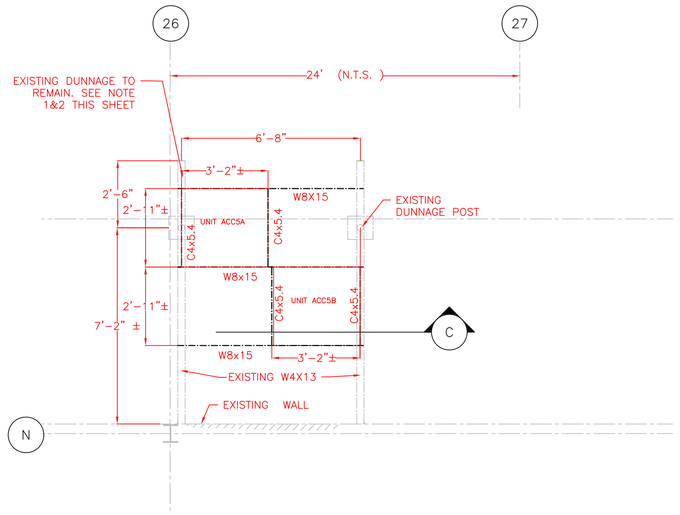
CONTRACT NUMBER 22-524
SHEET NUMBER S-1
SHEET NO. 4 OF 21
SCALE: AS SHOWN
DATE: 12/1/2023
DPW FILE NO. 61-10-S-408-0
REV. NO. 0



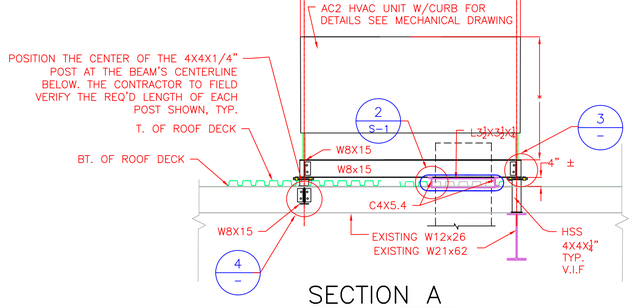
AC2B UNIT DUNNAGE FRAMING PLAN
1/4"=1'-0"



AC6 UNIT DUNNAGE FRAMING PLAN
1/4"=1'-0"

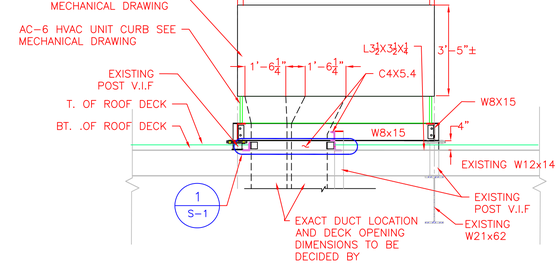


ACC5A/5B UNIT DUNNAGE FRAMING PLAN
1/4"=1'-0"

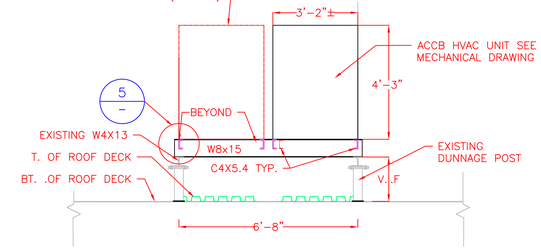


SECTION A
1/4"=1'-0"

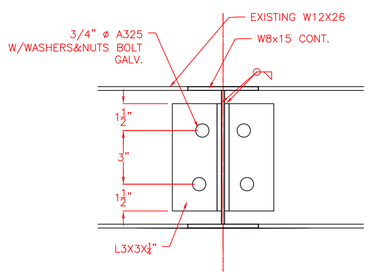
NOTE: * SEE MECHANICAL DRAWING



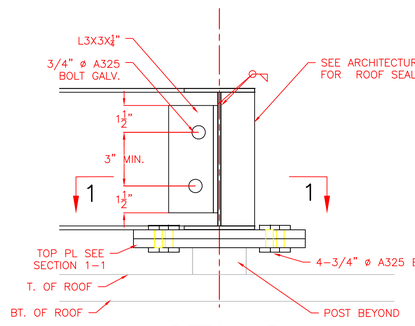
SECTION B
1/4"=1'-0"



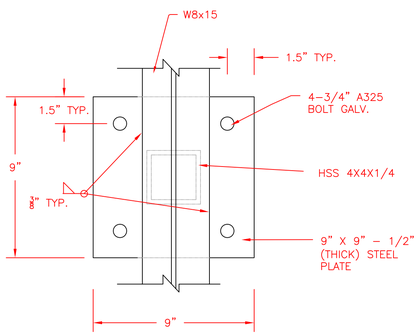
SECTION C
1/4"=1'-0"



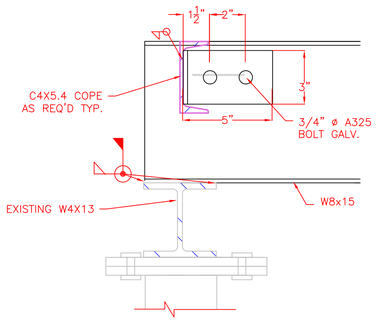
4 — DETAIL 4
3"=1'-0"



3 — DETAIL 3
3"=1'-0"



SECTION 1-1
3"=1'-0"



5 — DETAIL 5
3"=1'-0"

NOTE:

1: THE CONTRACTOR TO INSPECT EXISTING STEEL CONDITION AND NOTIFY THE DESIGN ENGINEER/PROJECT COORDINATOR IF ANY DETERIORATION IS FOUND. REPAIR AS NECESSARY UNDER THE DIRECTION OF THE DESIGN ENGINEER.

2. ALL EXISTING STEEL SURFACES TO BE PREPARED IN ACCORDANCE WITH STANDARD SSPC SP3 AS SPECIFIED BY SOCIETY FOR PROTECTIVE COATINGS ALL COATING APPLICATION AND CURING REQUIREMENTS MUST BE AS PER THE APPROVED COATING MANUFACTURE'S WRITTEN RECOMMENDATIONS.

3. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE DIMENSIONS OF THE EXISTING DUNNAGE. IF THE PROPOSED DUNNAGE CURB CENTERLINE DIFFERS FROM THE EXISTING POST CENTERLINE, THE DESIGN ENGINEER MUST BE NOTIFIED PRIOR TO SHOP DRAWING SUBMITTAL. THE CONNECTION METHOD SHOWN IN DETAIL 1 ON SHEET S-1 SHALL BE USED UNLESS DIRECTED OTHERWISE BY THE DESIGN ENGINEER.

IN CHARGE OF
CHECKED BY P. ABENAVOLI PE
MADE BY M HUANG PE

REVISION NUMBER	DATE	MADE BY	APP'D BY	REVISION

RECORD DRAWING CERTIFICATION

☐ AS BUILT – CHANGES AS NOTED
☐ AS BUILT – NO CHANGES

CONTRACTOR
NAME
SIGNATURE
TITLE DATE

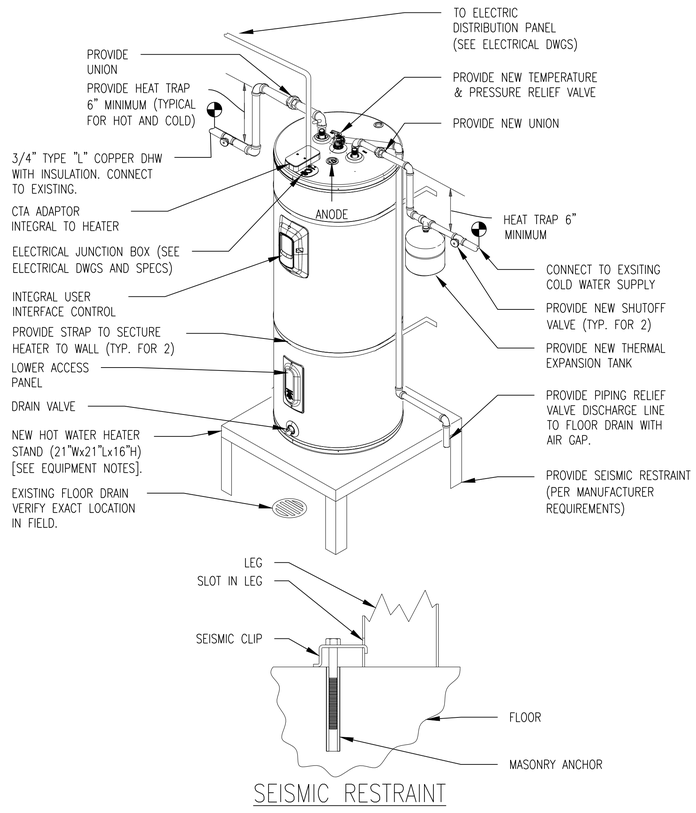
PROJECT COORDINATOR
NAME
SIGNATURE
TITLE DATE

WESTCHESTER COUNTY, NEW YORK
DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION
DIVISION OF ENGINEERING

REPLACEMENT OF HVAC SYSTEMS AND ASSOCIATED WORK
BEE-LINE CENTRAL MAINTENANCE FACILITY (DOT-CMF)
475 SAW MILL RIVER ROAD, YONKERS, NEW YORK
UNIT DUNNAGE FRAMING PLANS, SECTIONS AND DETAILS

CONTRACT NUMBER	SHEET NUMBER
22-524	S-2

SHEET NO. 5 OF 21
SCALE: AS SHOWN
DATE: 12/1/2023
DPW FILE NO. 61-10-S-409-0
REV. NO. 0



SEISMIC RESTRAINT

1 / P-2 ELECTRIC WATER HEATER DETAIL
SCALE: NONE

NEW GAS DISTRIBUTION PIPING NOTES:
1. CONTRACTOR SHALL FIELD VERIFY ACTUAL LENGTHS NEEDED FOR NEW GAS DISTRIBUTION PIPING (FOR 4", 2" & 1" PIPE SIZES).
2. CONTRACTOR SHALL PAINT 2 COATS OF YELLOW AND MARK ALL GAS DISTRIBUTION PIPING.
3. CONTRACTOR RESPONSIBLE FOR FIELD VERIFICATION TO DETERMINE THE BEST POSSIBLE ROUTING. NO ADDITIONAL PAYMENTS WILL BE MADE FOR CHANGES IN PIPE ROUTING DUE TO FIELD CONDITIONS.
4. CONTRACTOR SHALL INSTALL NEW GAS DISTRIBUTION PIPING TIGHT TO THE BUILDING WALLS OR STRUCTURE. CONTRACTOR RESPONSIBLE FOR NEW GAS PIPING CONNECTIONS TO NEW GAS FIRED AIR HANDLING UNITS.
5. CONTRACTOR RESPONSIBLE FOR CORE DRILLING.
6. CONTRACTOR SHALL PROVIDE STEEL SLEEVES AT EVERY LOCATION OF PIPE WALL OR SLAB PENETRATION, PATCH AND FIRE/WATER SEAL.
7. CONTRACTOR SHALL FURNISH AND INSTALL NEW GALVANIZED STEEL PIPE HANGERS/SUPPORTS (NOT SHOWN ON THE DRAWING) FOR ROUTING NEW GAS DISTRIBUTION PIPING. NUMBER OF PIPE HANGERS/SUPPORTS PER FUEL GAS CODE, NEW YORK STATE. NEW PIPE CLEARANCES PER FUEL GAS CODE, NEW YORK STATE.
8. CONTRACTOR RESPONSIBLE FOR RELOCATION OF ANY EXISTING ELECTRICAL CONDUITS, WIRING, PIPING, DUCTWORK, PANELS ETC IF NEEDED FOR INSTALLATION OF NEW GAS DISTRIBUTION PIPING, AT NO ADDITIONAL COST TO THE COUNTY.

PLUMBING GENERAL NOTES

1. THE INFORMATION GIVEN ON THIS PLAN IS FOR BID PURPOSES ONLY. THE SUCCESSFUL CONTRACTOR SHALL MAKE HIS OWN FIELD MEASUREMENTS AND VERIFY ALL GIVEN INFORMATION BEFORE ORDERING MATERIALS.
2. VERIFY LOCATIONS OF NEW PIPING PRIOR TO INSTALLATION. COORDINATE ROUTING OF PIPING WITH WORK OF OTHER TRADES. NOTIFY ENGINEER IMMEDIATELY IF ANY POSSIBLE CONFLICTS WITH LIGHTS, DUCTWORK, ETC. COULD OCCUR.
3. PROVIDE ALL PIPE OPENINGS THROUGH PARTITIONS/FLOORS WITH PIPE SLEEVES. FOR PIPES PENETRATING FIRE RATED PARTITIONS, THE SPACE BETWEEN THE PIPE AND THE SLEEVE SHALL BE SEALED WITH FIRE STOPPING MATERIAL.
4. PITCH ALL STORM DRAIN PIPING AS REQUIRED PER STATE AND LOCAL BUILDING CODE. PIPING 2" OR LESS SHALL HAVE A MINIMUM SLOPE OF 1/4" PER FOOT AND PIPING OVER 2" SHALL A MINIMUM SLOPE OF 1/8" PER FOOT.
5. REMOVE ABANDONED PIPING BACK TO MAIN OR RISER AND CAP. CAPPING AND PLUGGING OF PIPING SHALL BE DONE USING THE SAME MATERIAL AS THE PIPING.
6. ALL WORK SHALL BE DONE IN COMPLIANCE WITH NFPA, THE N.Y. STATE AND THE LOCAL PLUMBING CODES.
7. ALL PLUMBING WORK SHALL BE PERFORMED BY A PLUMBER LICENSED BY THE COUNTY OF WESTCHESTER. A COPY OF THE LICENSE SHALL BE SUMBITTED TO OWNER AND ALL FEES PAID.
8. PROVIDE SUFFICIENT CLEVIS TYPE HANGERS, SUPPORTS, RODS, BRACES, ETC. TO PROPERLY SUPPORT PIPING. INSTALL HANGERS OVER INSULATION.
9. ALL WORK SHALL BE PROPERLY TESTED, BALANCED, AND CLEANED. TESTING BY LICENSED PLUMBER. TEST PRESSURE SHALL BE 3 PSIG FOR 1/2 HOUR FOR EACH 500 CUBIC FEET OF PIPE VOLUME. WHERE NEW BRANCHES ARE INSTALLED TO NEW APPLIANCES, ONLY THE NEWLY INSTALLED BRANCHES SHALL BE PRESSURE TESTED. CONNECTIONS BETWEEN THE NEW PIPING AND THE EXISTING PIPING SHALL BE TESTED WITH A NONCORROSIVE LEAK-DETECTING FLUID.

PLUMBING CONSTRUCTION NOTES:

1. THIS CONTRACTOR SHALL PROVIDE ALL CORE DRILLING, CUTTING AND PATCHING AS REQUIRED TO COMPLETE THIS CONTRACT; INCLUDING FOR PIPE ROUTING AND DEMOLITION.
2. ALL PIPING SHALL BE NEW UNLESS OTHERWISE SPECIFIED.

PLUMBING PIPING MATERIAL

1. DRAIN PIPING: DRAIN SHALL BE SCH. 40 PVC DWV.
2. CONDENSATE TRAPS: PROVIDE TRAP ACCORDING TO DETAIL. NOTE PRESSURE OF COILS.

PLUMBING EQUIPMENT

1. WATER HEATER STAND: PROVIDE WATER HEATER STAND 650 LB CAPACITY (52 GAL), SEISMIC CLIPS, 16-GAUGE GALVANIZED STEEL,

GAS PIPING MATERIALS

SERVICE	SIZE (IN.)	MATERIAL	TYPE/WEIGHT	STANDARD
GAS	> 2"	BLACK	ERW/SCH.40 WELDED	ASTM A53
GAS	< 2"	BLACK	ERW/SCH.40 THRD.	ASTM A53

GAS PIPE FITTINGS

SERVICE	SIZE (IN.)	MATERIAL	TYPE/ WEIGHT	STANDARD
GAS	> 2"	FORGED STEEL	WELDED/150 PSI	ASME B16.5
GAS	< 2"	MALLEABLE IRON	THRD./150 PSI	ASME B16.3

GAS VALVE SCHEDULE

MISCELLANEOUS SERVICE	MANUFACTURER
GAS VALVES/ PLUG VALVES	ROCKWELL CO./FLOWSERVE NORDSTROM #142

PLUMBING DEMOLITION NOTES

1. ALL EXISTING CONDENSATE PIPING ASSOCIATED WITH AC-2 SHALL BE REMOVED IN ITS ENTIRETY.

WATER HEATER SCHEDULE

FUEL TYPE	MANUFCTR	DESCRIPTION	NOMINAL GALLON CAPACITY	RATED STORAGE VOL.(GAL)	MODEL NUMBER	RECOVERY IN GPH @ 80°F RISE	FIRST HOUR RATING (GALLONS)	TANK HEIGHT A	DIAMETER B	SHIP WEIGHT (LBS)	UNIFORM ENERGY FACTOR(UEF)
ELECTRIC	RHEEM	WH-1	50	45	EL052-TB	23	63	58-5/8	20-1/4	155	.93

4,500 WATT , 208V, 22 AMP NON-FUSED. CONTRACTOR SHALL FIELD CONFIGURE NON-SIMULTANEOUS OPERATION.

PLUMBING LEGEND

SYMBOL	ABBREVIATION	DESCRIPTION
–	AFF	ABOVE FINISHED FLOOR
–	BHP	BRAKE HORSEPOWER
–	EWT	ENTERING WATER TEMPERATURE
–	GPM	GALLONS PER MINUTE
–	HP	HORSE POWER
–	LWT	LEAVING WATER TEMPERATURE
–	FOS	FUEL OIL SUPPLY
–	FOR	FUEL OIL RETURN
–	HWS	HOT WATER SUPPLY
–	HWR	HOT WATER RETURN
–	D	DRAIN
–	CW	DOMESTIC WATER
–	V.I.F.	VERIFY IN FIELD
–	SHWS/R	SECONDARY HOT WATER SUPPLY/RETURN
–	DCWS	DOMESTIC COLD WATER SUPPLY
–	DHWS	DOMESTIC HOT WATER SUPPLY
	–	TRIPLE DUTY VALVE
	–	FLOW CONTROL VALVE
	–	2-WAY VALVE
	–	GATE VALVE
	–	GLOBE VALVE
	–	OS&Y GATE VALVE
	–	BUTTERFLY VALVE
	–	STRAINER
	–	CIRCUIT SETTER
	–	MANUAL AIR VENT
	–	AUTO AIR VENT
	–	BALL VALVE
	–	PRESSURE GAGE
	–	THERMOMETER
	–	CHECK VALVE
	–	UNION
	–	WATER METER
M	–	MOTORIZED DAMPER
	–	POINT OF CONNECTION OR DISCONNECTION
	–	FLOW DIRECTION
	–	PLUG VALVE
	EX.	EXISTING TO REMAIN
	NEW	NEW WORK
	DEM.	EXISTING TO BE DEMOLISHED/REMOVED

IN CHARGE OF JAI PUNNOOSE, P.E.
CHECKED BY
MADE BY VINCENT LEONE, P.E.

REVISION NUMBER	DATE	MADE BY	APP'D BY	REVISION

RECORD DRAWING CERTIFICATION
☐ AS BUILT – CHANGES AS NOTED
☐ AS BUILT – NO CHANGES

CONTRACTOR
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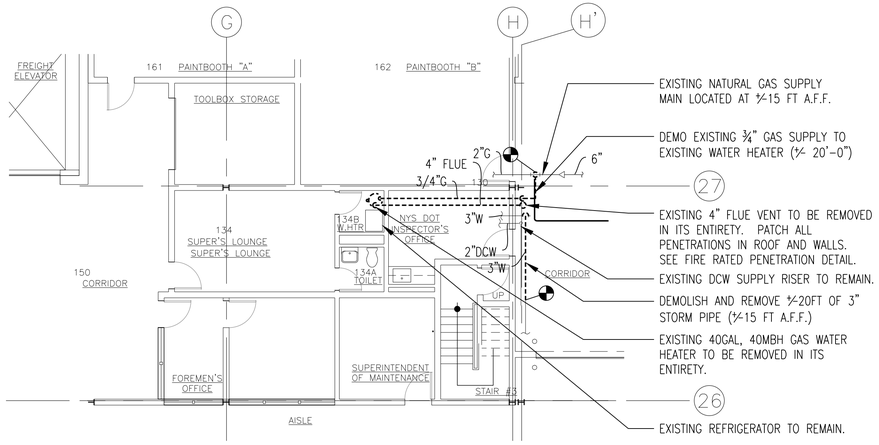
SIGNATURE
TITLE DATE

PROJECT COORDINATOR
NAME
SIGNATURE
TITLE DATE

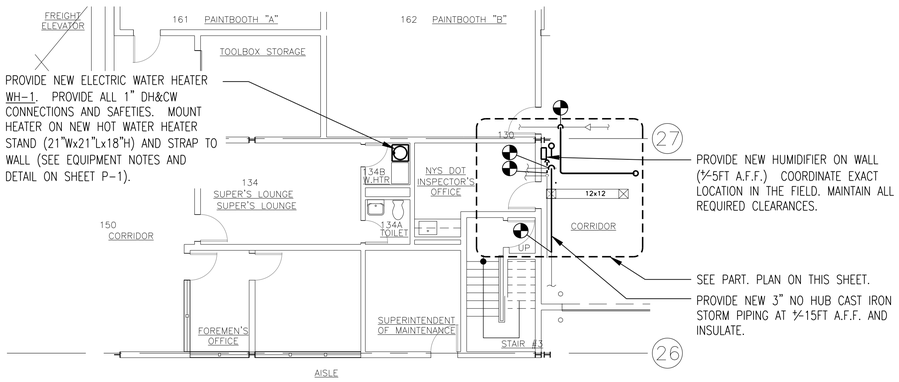
WESTCHESTER COUNTY, NEW YORK
DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION
DIVISION OF ENGINEERING

REPLACEMENT OF HVAC SYSTEMS AND ASSOCIATED WORK
BEE-LINE CENTRAL MAINTENANCE FACILITY (DOT-CMF)
475 SAW MILL RIVER ROAD, YONKERS, NEW YORK
PLUMBING NOTES, DETAILS AND LEGEND

CONTRACT NUMBER 22-524
SHEET NUMBER P-1
SHEET NO. 6 OF 21
SCALE: AS SHOWN
DATE: 12/1/2023
DPW FILE NO. 61-10-H-410
REV. NO. 0



1 P-2 **1ST FLOOR OFFICE DEMOLITION PLAN**
SCALE: 1/8" = 1'-0"



2 P-2 **1ST FLOOR OFFICE NEW WORK PLAN**
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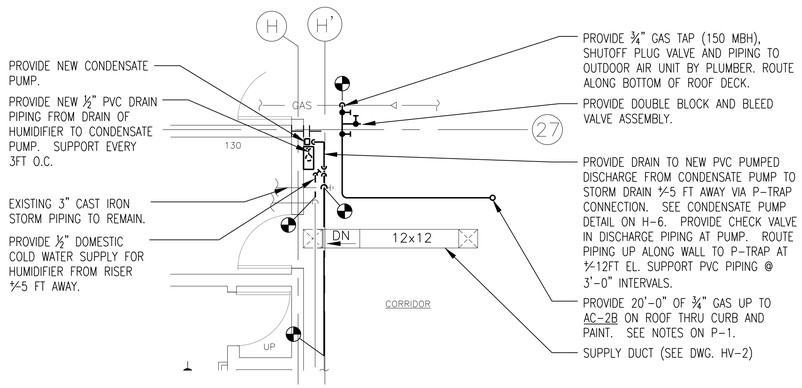
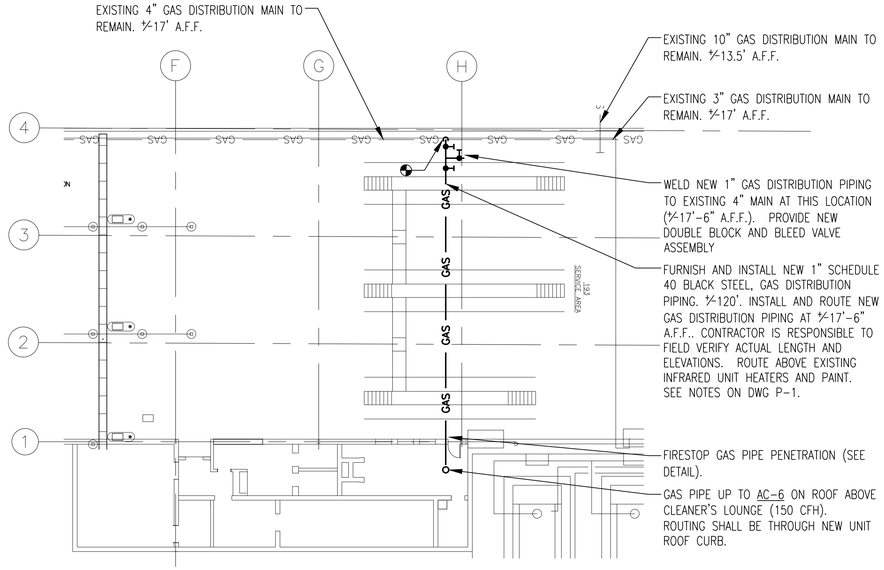
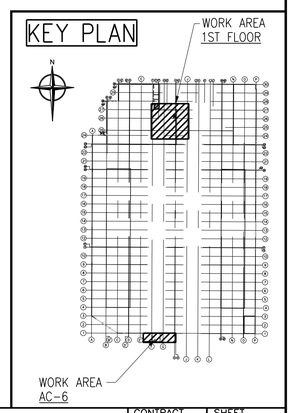


3 P-2 **1ST FLOOR OFFICE PART PLAN**
SCALE: 1/4" = 1'-0"



4 P-2 **AC-6 GAS PIPING PLAN**
SCALE: 1/16" = 1'-0"



REVISION NUMBER	DATE	MADE BY	APP'D BY	REVISION

RECORD DRAWING CERTIFICATION
☐ AS BUILT – CHANGES AS NOTED
☐ AS BUILT – NO CHANGES

CONTRACTOR
NAME
SIGNATURE
TITLE DATE

PROJECT COORDINATOR
NAME
SIGNATURE
TITLE DATE

IN CHARGE OF JAI PUNNOOSE, P.E.
CHECKED BY
MADE BY VINCENT LEONE, P.E.

WESTCHESTER COUNTY, NEW YORK
DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION
DIVISION OF ENGINEERING

REPLACEMENT OF HVAC SYSTEMS AND ASSOCIATED WORK
BEE-LINE CENTRAL MAINTENANCE FACILITY (DOT-CMF)
475 SAW MILL RIVER ROAD, YONKERS, NEW YORK
NEW WORK PART PLANS

CONTRACT NUMBER	SHEET NUMBER
22-524	P-2
SHEET NO. 7 OF 21	
SCALE: AS SHOWN DATE: 12/1/2023	
DPW FILE NO. 61-10-H-411	REV. NO. 0

GENERAL NOTES

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE NEW YORK STATE UNIFORM FIRE PREVENTION AND BUILDING CODE AND HEALTH CODE. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED PERMITS, INSPECTIONS AND FEES. CONTRACTOR SHALL PROVIDE ALL DEMOLITION WORK, MATERIALS, EQUIPMENT AND LABOR AS REQUIRED TO PROVIDE A COMPLETE INSTALLATION OF ALL WORK INDICATED BY THE DRAWINGS AND SPECIFICATIONS AND AS REQUIRED BY EQUIPMENT MANUFACTURER'S INSTALLATION INSTRUCTIONS. SUBMIT ON ALL MATERIALS AND EQUIPMENT AND PROVIDE O&M MANUALS. PROVIDE FOUR(4) COPIES OF SUBMITTALS.
2. PROVIDE ALL WORK TO THE SATISFACTION OF THE CONSTRUCTION MANAGER.
3. THE INFORMATION GIVEN ON THESE PLANS ARE FOR BID PURPOSES ONLY. THE SUCCESSFUL CONTRACTOR SHALL MAKE HIS OWN FIELD MEASUREMENTS AND VERIFY ALL GIVEN INFORMATION BEFORE ORDERING MATERIALS.
4. ALL PRODUCTS AND CONSTRUCTION INDICATED ON THE DRAWINGS AND SPECIFICATIONS SHALL BE CONSIDERED TO BE NEW UNLESS SPECIFICALLY NOTED AS EXISTING OR AS REUSED.
5. THE CONTRACTOR WILL BE REQUIRED TO CHECK ALL ISSUED DRAWINGS AGAINST CONDITIONS AT THE SITE. THE CONTRACTOR SHALL REPORT TO THE ARCHITECT/ENGINEER ANY DISCREPANCY BETWEEN THE DRAWINGS AND EXISTING CONDITIONS. NO ALLOWANCE FOR ADDITIONAL PAYMENT WILL BE MADE FOR THE CONTRACTOR'S FAILURE TO VERIFY ALL EXISTING SITE CONDITIONS WITH THE CONTRACT DOCUMENTS.
5. THE ARCHITECT/ENGINEER SHALL HAVE THE RIGHT AT ALL TIMES TO EXAMINE THE WORK AND DETERMINE THE CONFORMANCE WITH THE REQUIREMENTS AND INTENT OF THE CONTRACT DOCUMENTS AS INTERPRETED BY THE ARCHITECT/ENGINEER.
6. COORDINATE EXACT LOCATIONS OF NEW EQUIPMENT, DUCTWORK, PIPING, EXHAUST FANS, LOUVERS, CONTROLS, PANELS, ETC. WITH OTHER TRADES AND WITH EXISTING CONDITIONS. CONTRACTOR SHALL PROVIDE COORDINATION SHOP DRAWINGS OF ALL WORK FOR REVIEW, MARK-UP AND COORDINATION WITH OTHER TRADES.
7. THIS PROJECT SHALL BE EXECUTED IN AN ORDERLY AND CAREFUL MANNER WITH DUE CONSIDERATION FOR THE PROTECTION OF ADJACENT ACTIVITIES AND THE GENERAL PUBLIC. DUST PRODUCING DEMOLITION SHALL BE ISOLATED WITH PROPER PRECAUTIONS.
8. CONTRACTOR SHALL REMOVE OR RELOCATE ANY EXISTING UTILITIES AS REQUIRED OR AS INSTRUCTED BY THE COUNTY REPRESENTATIVE FOR THE PROPER COMPLETION OF THIS PROJECT.
9. GENERAL CONDITIONS AND REQUIREMENTS OF ARCHITECTURAL SPECIFICATIONS ARE PART OF THIS WORK. PROVIDE ALL LABOR AND MATERIALS NECESSARY FOR COMPLETE INSTALLATION OF THE HVAC AND PLUMBING SYSTEMS INDICATED ON DRAWINGS. ALL TECHNICIANS SHALL BE COMPETENT TO PROVIDE INSTALLATION SERVICES FOR THE SYSTEMS INDICATED ON THE DRAWINGS. PROVIDE A ONE YEAR LABOR AND MATERIAL WARRANTY FOR ALL WORK TO BEGIN AT THE DATE OF SUBSTANTIAL COMPLETION. TURN OVER MANUFACTURER'S EXTENDED WARRANTIES TO OWNER. PROVIDE 4-HOUR MAX RESPONSE TIME TO WARRANTY CALLS AND AS SOON AS POSSIBLE TURN AROUND TIME FOR COMPLETION OF REPAIRS. INCLUDE ALL EXPRESS AND OVERNIGHT SHIPPING CHARGES FOR REPAIR PARTS REQUIRED FOR ANY REPAIRS.
10. ALL WALL PENETRATIONS SHALL BE SEALED, WEATHER-TIGHT, AND FIRESTOPPING MATERIAL INSTALLED.
11. PROVIDE TEMPORARY PROTECTION FROM THE EXTERIOR WHERE CONSTRUCTION WORK RENDERS INTERIOR SURFACES EXPOSED TO THE EXTERIOR.
12. PRIOR TO THE INSTALLATION OF ANY WORK AND PROCUREMENT OF EQUIPMENT THE CONTRACTOR SHALL PROVIDE COUNTY REPRESENTATIVE (4) FOUR COMPLETE SETS OF MANUFACTURER'S DATA OR SHOP DRAWINGS OF THE FOLLOWING APPARATUS GIVING FULL INFORMATION AS TO DIMENSIONS, MATERIALS, PERFORMANCE, AND SEQUENCE OF OPERATION FOR REVIEW:
    A. DUCTED AND DUCTLESS SPLIT SYSTEMS
    B. MAKEUP AIR UNITS
    C. AIR OUTLETS/LOUVERS
    D. DUCTWORK LAYOUT
    E. PIPING, VALVES, FITTINGS, ACCESSORIES, AND ELEVATIONS, ROUTING LAYOUT
    F. EXHAUST FANS
    G. SUPPORT & HANGER DETAILS
    H. TEMPERATURE CONTROLS, SENSORS, RELAYS, WORK STATIONS, ETC.

ROOFING NOTES

1. ALL WALL AND ROOF PENETRATIONS SHALL BE SEALED, WEATHERPROOFED, AND FIRESTOPPING MATERIAL INSTALLED.
2. ALL ROOF PENETRATIONS SHALL MAINTAIN EXISTING ROOF WARRANTY. SEE ARCHITECTURAL DWGS FOR MORE DETAIL.

GENERAL MECHANICAL NOTES

1. ALL MATERIALS REQUIRED TO BE RATED SHALL BEAR A MARK ON EACH RATED ITEM. PRESSURE TREATED WOOD SHALL BE MARKED WITH THE AWPB QUALITY MARK REQUIREMENTS. FIRE RETARDANT WOOD SHALL BE PROVIDED WITH UL LABEL ON EACH PIECE OF LUMBER OR PLYWOOD. PROVIDE UL LISTED ELECTRICAL MATERIALS. PROVIDE AGA LABELED GAS FIRED EQUIPMENT AND VALVES. CONTRACTOR SHALL VERIFY ACTUAL LOCATIONS OF ALL UTILITIES PRIOR TO ANY EXCAVATION OR DEMOLITION. THE CONTRACTOR IS RESPONSIBLE FOR SAFEKEEPING OF EQUIPMENT AND MATERIALS INCLUDING THOSE SUPPLIED BY THE OWNER, IF ANY.
2. MINOR ITEMS OF WORK SUCH AS CUTTING, BLOCKING, TRIM, ETC., SHALL BE PERFORMED AS REQUIRED TO MAKE THE WORK COMPLETE AND SECURE WHETHER SHOWN OR NOTED ON THE CONTRACT DOCUMENTS OR NOT.
3. ALL MATERIALS SHALL BE AS SPECIFIED OR EQUAL AS APPROVED BY ARCHITECT/ENGINEER. SPECIFIC MATERIALS SPECIFIED IS MEANT TO INDICATE QUALITY INTENT WHICH WILL BE USED AS BASIS FOR COMPARISON WITH SUBSTITUTES SUBMITTED FOR APPROVAL. THE DECISION AS TO WHAT IS EQUAL IS TO BE DETERMINED BY THE ARCHITECT/ENGINEER.
4. REMOVE EXISTING CONSTRUCTION TO THE EXTENT REQUIRED TO PROVIDE SPECIFIED WORK AS DETAILED UNLESS OTHERWISE NOTED. AT PENETRATIONS OF FIRE-RATED WALL, CEILING, OR FLOOR CONSTRUCTION, COMPLETELY SEAL VOIDS WITH FIRE-RATED MATERIALS, FULL THICKNESS OF THE CONSTRUCTION ELEMENTS.
5. WHERE EXISTING SUBSTRATE CONSTRUCTION IS NOT SECURELY FASTENED, REFASTEN AS NECESSARY TO ADEQUATELY SECURE EXISTING CONSTRUCTION FOR ITS INTENDED USE.
6. PROVIDE ALL NECESSARY SUPPORTS, CLAMPS, BRACKETS, ANGLES, MISCELLANEOUS STEEL AND OTHER ITEMS AS REQUIRED FOR PROPER SUPPORT OF EQUIPMENT DUCTWORK, PIPING AND CONTROL WIRING IN ACCORDANCE WITH MSS STANDARDS AND PRACTICES SP-58 & SP-69, THE FUEL GAS CODE (NFPA 54), SMACNA AND THE NEC. ANCHOR IN SUCH A WAY AS TO PROVIDE FOR EXPANSION AND CONTRACTION OF THE EXISTING SUBSTRATE AND NEW CONSTRUCTION.
7. ALL LOW VOLTAGE CONTROL WIRING SHALL BE MINIMUM 18 GA TWISTED PAIR. ALL CONTROL WIRING SHALL BE RUN IN EMT AND INSTALLED PER NEC. TEFLON COATED FIRE RETARDANT CABLE MAY BE INSTALLED WITHOUT EMT IN CONCEALED SPACES. PROVIDE ALL COMPONENTS AND LABOR REQUIRED FOR A COMPLETE CONTROL SYSTEM FOR ALL EQUIPMENT. PROVIDE SHIELDED CABLE WHEN REQUIRED BY MANUFACTURER.
8. FIELD COORDINATE ALL PIPE, DUCT, CONDUIT AND CONTROL LINE RUNS BEFORE FABRICATION AND INSTALLATION. NO EXTRAS SHALL BE PERMITTED FOR REROUTING, REFABRICATION, RESTOCKING OR REMOVAL OF INSTALLED WORK DUE TO COORDINATION WITH BUILDING STRUCTURE, WORK OF OTHER TRADES OR EXISTING BUILDING COMPONENTS.
9. DUCTWORK AND PIPING DRAWINGS ARE SCHEMATIC AND ALL DUCTWORK AND PIPING RUNS DO NOT NECESSARILY SHOW ALL NECESSARY CHANGES IN ELEVATION OR OFFSETS REQUIRED FOR A COMPLETE INSTALLATION. PROVIDE ALL DUCT AND PIPE OFFSETS AS REQUIRED FOR THE INSTALLATION OF THE DUCT AND PIPE RUNS SHOWN ON PLANS. ALL CONTROLS, PIPING, DUCT, CONDUIT AND WIRING SHALL BE RUN CONCEALED WITHIN BUILDING CEILING SPACE, PARTITIONS OR CONNECTED EQUIPMENT UNLESS NOTED OTHERWISE.
10. OFFSET ALL EXPOSED PIPING, DRAINS AND CONDUIT LINES AS REQUIRED SO THAT IT THEY DO NOT RUN ACROSS EQUIPMENT ACCESS PANELS, LIGHTS, SPEAKERS, FIRE ALARM COMPONENTS AND OTHER CEILING OR EXPOSED STRUCTURE MOUNTED DEVICES.
11. NOTIFY AND COORDINATE WITH OWNER BEFORE USING ANY VOLATILE OR FUME PRODUCING COMPOUNDS SUCH AS DUCT SEALANT, CLEANING FLUIDS AND INSULATION GLUE. PROVIDE MEANS OF TEMPORARY VENTILATION.
12. HYDRONIC PIPING SHALL BE TYPE L COPPER WITH MINIMUM 1" FIBERGLAS PIPE WRAP INSULATION. PROVIDE TWO PIECE BALL VALVES, VENT COCKS, DRAINS AND FITTINGS RATED FOR MINIMUM 125 PSIG. PROVIDE UNIONS AT ALL PIECES OF EQUIPMENT TO PERMIT SERVICE. PROVIDE DIELECTRIC UNIONS AT PIPE JOINTS HAVING DISSIMILAR METALS. PRESSURE TEST AND STARTUP BOILERS, PUMPS, AIR HANDLERS AND CONDENSING UNITS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
13. USE ONLY NEW, CLEAN ACR TUBE AND FITTINGS FOR DX PIPING. PULL DEEP VACUUM AND CHARGE PER MANUFACTURER'S RECOMMENDATIONS. ONLY CERTIFIED TECHNICIANS SHALL PERFORM REFRIGERATION PIPING WORK AND SHALL PROVIDE PROPER RISERS AND TRAPS FOR OIL RETURN WHERE COMPRESSORS ARE MOUNTED ABOVE COOLING COILS. REVIEW REFRIGERANT PIPING RUNS WITH CONDENSING UNIT MANUFACTURER AND ENSURE WARRANTY REQUIREMENTS ARE COMPLIED WITH.
14. PROVIDE ALL HVAC EQUIPMENT ACCESSORIES AND CONTROLS AS RECOMMENDED BY MANUFACTURER'S FOR A COMPLETE AND FUNCTIONAL SYSTEM.
15. THE PLANS AND SPECIFICATIONS COMPLY WITH THE LATEST EDITION OF THE ENERGY CONSERVATION CONSTRUCTION CODE OF NEW YORK STATE (ECCNYS).

RIGGING NOTES

1. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE ALL REQUIRED RIGGING FOR THIS CONTRACT.
2. ALL RIGGING SHALL BE PERFORMED BY A RIGGER AND HOISTER LICENSED AND CERTIFIED BY NEW YORK STATE.
3. ANY CRANES OR EQUIPMENT USED TO LIFT MATERIAL UP TO THE ROOFS SHALL BE APPROVED WITH THE COUNTY, MINIMUM 72 HOURS PRIOR TO USE.
4. CONTRACTOR SHALL ABIDE ALL REGULATIONS ASSOCIATED WITH RIGGING, SIDEWALK, OR ROAD CLOSURES, PEDESTRIAN AND MOTOR VEHICLE PROTECTION. CONTRACTOR RESPONSIBLE TO OBTAIN ALL PERMITS AS REQUIRED.
5. CONTRACTOR SHALL PROVIDE NYS PE STAMPED SHOP DRAWINGS FOR ALL SUCH EQUIPMENT, COST TO BE INCLUDED IN THE BID PRICE.
6. CONTRACTOR SHALL FIELD VERIFY BUILDING ELEVATIONS AND CLEARANCES TO ESTABLISH RIGGING PLAN INCLUDING LOCATION OF THE HOISTING CRANE, ACCEPTABLE AREAS FOR CONTRACTOR STAGING, LAY DOWN AND RIGGING.
7. ALL WORK SHALL BE COORDINATED TO LIMIT DISRUPTION TO BUS FACILITY OPERATIONS. ALL REMOVALS AND REPLACEMENTS SHALL BE DONE ON WEEKENDS.
8. ADDITIONAL INSURANCE IS REQUIRED FOR CRANES AND RIGGING. CRANE, RIGGING & CRANE OPERATOR (RIGGER LIABILITY) INSURANCE WITH A MINIMUM LIMIT OF LIABILITY PER OCCURRENCE OF $500,000- FOR BODILY INJURY AND A MINIMUM LIMIT OF $500,000- PER OCCURRENCE FOR PROPERTY DAMAGE OR A COMBINED SINGLE LIMIT OF $5,000,000- UNLESS OTHERWISE INDICATED IN THE CONTRACT SPECIFICATIONS. THIS INSURANCE SHALL INCLUDE FOR BODILY INJURY AND PROPERTY DAMAGE. ALL COVERAGE'S SHALL NAME THE "COUNTY OF WESTCHESTER AND LIBERTY LINES" AS ADDITIONAL INSURED.

GENERAL PHASING NOTES

1. CONTRACTOR SHALL NOTE, CENTRAL MAINTENANCE FACILITY IS AN ACTIVE FACILITY, OPERATING 24 HRS/365 DAYS. NO INTERRUPTIONS TO FACILITY OPERATION WILL BE ALLOWED OR ANTICIPATED DURING CONSTRUCTION. CONTRACTOR SHALL COORDINATE AND OBTAIN PERMISSION FROM THE FACILITY MANAGER AND DPW&T CONSTRUCTION MANAGER, FOR SCHEDULING ANY WORK THAT REQUIRES INTERRUPTION TO FACILITY OPERATIONS OR MECHANICAL HVAC EQUIPMENT.
2. ALL WORK SHALL BE DONE 7AM - 3:30PM, MONDAY THRU FRIDAY, UNLESS OTHERWISE NOTED ON PLANS AND SPECIFICATIONS.
3. ANY WORK REQUIRED TO BE ON PREMIUM TIME, NIGHTS OR WEEKENDS SHALL BE INCLUDED IN THE BASE BID. NO ADDITIONAL PAYMENTS WILL BE ALLOWED FOR PREMIUM TIME.
4. ANY INTERRUPTION TO FIRE SPRINKLER SYSTEM REQUIRED DURING THE COURSE OF CONSTRUCTION, CONTRACTOR SHALL PROVIDE FIRE WATCH AND INFORM LOCAL FIRE DEPARTMENT OF NOTICE OF IMPAIRMENT AND PROVIDE TEMPORARY FIRE EXTINGUISHERS OR HOSES AS REQUIRED IN COMPLIANCE WITH ALL LOCAL AND STATE REQUIREMENTS.
5. PROVIDE TEMPORARY HEATING AND COOLING IN ANY AREAS WHERE HVAC IS NOT IN OPERATION FOR ANY PERIOD OVER THE DURACTION OF THE PROJECT.

GENERAL DEMOLITION NOTES

1. CONTRACTOR RESPONSIBLE FOR FIELD VERIFICATION TO IDENTIFY EXISTING EQUIPMENT AND ASSOCIATED ACCESSORIES TO BE DEMOLISHED.
2. CONTRACTOR RESPONSIBLE FOR ALL PIPING/DUCTWORK/WIRING DISCONNECTIONS FROM EXISTING HVAC UNITS PRIOR TO REMOVAL AND DISPOSAL FROM SITE.
3. CARE SHALL BE TAKEN TO PROTECT EXISTING PROPERTY DESIGNATED TO REMAIN DURING THE DEMOLITION PROCESS. CONTRACTOR RESPONSIBLE TO REPLACE/RESTORE ANY EXISTING ITEMS DAMAGED DURING DEMOLITION PROCESS.
5. ALL DEBRIS SHALL BE REMOVED FROM THE WORK AREAS AND OCCUPIED AREAS AT THE END OF EACH DAY. ON SITE STORAGE OF MATERIALS SHALL BE AS DIRECTED BY THE OWNER.
6. CONTRACTOR RESPONSIBLE FOR LEGAL OFFSITE DISPOSAL OF ALL DEMOLISHED EQUIPMENT.
9. ALL EXISTING CONSTRUCTION, SURFACES, FINISHES, ETC. ALTERED OR EXPOSED BY ANY DEMOLITION, REMOVAL OR INSTALLATION SHALL BE REPAIRED OR REPLACED AS NECESSARY, SYSTEMATICALLY CLEANED, PRIMED, AND FINISHED TO PROVIDE A MATCHING, FINISHED APPEARANCE WITH THE SURROUNDING EXISTING CONDITIONS; I.E. CHANNELED EXISTING FLOOR SLABS TO INSTALL PIPING SHALL BE RESTORED.

MISCELLANEOUS PROVISIONS

1. CONTRACTOR SHALL PROVIDE SPARE FILTERS NECESSARY FOR 5 CYCLES OF REPLACEMENT PER UNIT.
2. CONTRACTOR SHALL PROVIDE TRAINING BY MANUFACTURER AUTHORIZED PERSONNEL.
3. CONTRACTOR SHALL CLEAN INTERIOR OF ALL AIR DUCTS COINCIDENT WITH ALL AIR CONDITIONING SYSTEMS ADDED OR MODIFIED UNDER THIS PROJECT EXISTING OR NEW.

DUCT NOTES

1. TIGHTLY INSULATE ALL DUCT WALL, FLOOR AND ROOF PENETRATION VOIDS WITH ROCK WOOL INSULATION. INSULATION PRODUCTS SHALL BE FIRE RETARDANT AND MEET NFPA 255 AND ASTM E84 COMPOSITE FLAME SPREAD AND SMOKE DEVELOPED RATINGS (NOT TO EXCEED 25/50).
2. ALL DUCTWORK SHALL BE GALVANIZED STEEL FABRICATED AND INSTALLED PER SMACNA HVAC DUCT CONSTRUCTION STANDARDS, METAL & FLEXIBLE, 2" CLASS RECTANGULAR DUCT EXCEPT NO LIGHTER THAN 24 GA SHEETMETAL SHALL BE USED.
3. PROVIDE TURNING VANES IN ALL ELBOWS AND TEES OR USE RADIUSED FITTINGS WITH MID RADIUS EQUAL TO 1.5 TIMES DUCT WIDTH IN TURNING PLANE.
4. PROVIDE 18x18 DUCT ACCESS DOORS AT ALL FIRE, SMOKE AND CONTROL DAMPERS. ROUND DUCTWORK PRESSURE CLASS SHALL BE RATED FOR 10" WG WITH NO LIGHTER THAN 24 GA. FOR DUCTS SMALLER THAN 18", PROVIDE ACCESS DOOR 2" SMALLER THAN DUCT. LOCATE ACCESS DOORS IN AN UNOBSTRUCTED AREA. FOR ROUND DUCTS, PROVIDE EASILY REMOVABLE CONNECTION TO DAMPER.
5. ALL DUCT DIMENSIONS INDICATED ON DRAWINGS ARE INSIDE CLEAR DIMENSIONS. PROVIDE FIRE RETARDENT FLEXIBLE DUCT CONNECTOR AT ALL FANS.
6. INSULATE SUPPLY DUCTS WITH 1-1/2" THICK DUCT WRAP FOR CONCEALED INDOOR LOCATIONS. INSULATE OUTDOOR AIR DUCTS WITH 3" THICK DUCT WRAP FOR CONCEALED INDOOR LOCATIONS. INSULATE EXHAUST DUCTS 8 FT FROM EXTERIOR PENETRATION WITH 1" THICK DUCT WRAP IN CONCEALED LOCATIONS AND 1" RIGID DUCT INSULATION WHERE EXPOSED IN FINISHED AREAS - SEAL EDGES AND PAINT EXPOSED RIGID INSULATION TO MATCH ROOM COLOR. SEAL CONCEALED DUCTS PER SMACNA SEAL CLASS A. DO NOT APPLY SEALANT OR INSULATE SUPPLY AND RETURN DUCTS THAT ARE EXPOSED IN FINISHED AREAS. INSTALL, JOIN, SEAL AND INSULATE DUCTS PER SMACNA STANDARDS AND THE MECHANICAL CODE OF NYS.
7. CLEAN INTERIOR OF ALL EXISTING SUPPLY AND RETURN AND FRESH AIR INTAKE DUCTS DESIGNATED TO REMAIN FOR EACH SYSTEM MODIFIED WITH APPROVED METHODS.

TESTING ADJUSTING AND BALANCING NOTES

1. CONTRACTOR IS RESPONSIBLE FOR TESTING ADJUSTING AND BALANCING OF ALL AFFECTED SYSTEMS (AC-2A&B, AC-5A&B, AC-6,7,8) BEFORE AND AFTER DEMOLITION AND COMPLETED CONSTRUCTION, RESPECTIVELY FROM A LICENSED TAB COMPANY PROVIDE INITIAL TAB REPORT.
2. DOCUMENT AIR EXISTING DIFFUSERS CURRENTLY DELIVER BEFORE DEMOLITION OF THE EXISTING AIR HANDLER. ENSURE ALL SUPPLY TERMINALS DELIVER AIRFLOWS AS SHOWN AFTER NEW AIR HANDLERS ARE INSTALLED. PROVIDE FINAL TAB REPORT.
3. PRESSURE TEST DUCTWORK, LOCATE LEAKS AND SEAL AS REQUIRED. ALL CUTTING AND PATCHING OF EXISTING PARTITIONS REQUIRED FOR ACCESS TO PROBE AND SEAL SHALL BE THE PERFORMED BY THE CONTRACTOR.

SPLIT SYSTEM HVAC NOTES

1. FIELD VERIFICATION: THE INFORMATION GIVEN ON THIS PLAN IS FOR BID PURPOSES ONLY. THE SUCCESSFUL CONTRACTOR SHALL MAKE HIS OWN FIELD MEASUREMENTS AND VERIFY ALL GIVEN INFORMATION BEFORE ORDERING MATERIALS INCLUDING BUT NOT LIMITED TO: ELEVATIONS, CLEARANCES, AND OFFSETS REQUIRED FOR NEW INSTALLATION.
2. COORDINATE LOCATIONS: COORDINATE LOCATIONS OF EVAPORATOR UNITS, CONDENSING UNIT, REMOTE CONTROLLER, REFRIGERANT PIPING, CONDENSATE DRAIN PIPING ETC. WITH OTHER TRADES AND WITH EXISITING CONDITIONS.
3. PROTECTION OF ADJACENT ACTIVITIES: THIS PROJECT SHALL BE EXECUTED IN AN ORDERLY AND CAREFUL MANNER WITH DUE CONSIDERATION FOR THE PROTECTION OF ADJACENT ACTIVITIES AND THE GENERAL PUBLIC. DUST PRODUCING DEMOLITION SHALL BE ISOLATED WITH PROPER PRECAUTIONS.
4. RELOCATION OF EXISTING: CONTRACTOR SHALL VERIFY ALL WORK WITHIN THE AREA AND SHALL REMOVE OR RELOCATE ANY EXISTING PIPING AND EQUIPMENT AS REQUIRED FOR THE INSTALLATION OF NEW UNITS.
5. PIPE ROUTING: NEW PIPING (REFRIGERANT & CONDENSATE) SHALL BE ROUTED IN A MANNER TO REDUCE OBSTRUCTIONS, WHERE POSSIBLE. ALL CONDENSATE TUBING SHALL BE ROUTED IN A MANNER THAT AVOIDS ALL ELECTRONIC EQUIPMENT WITHIN THE ROOM.
7. CODE COMPLIANCE: ALL WORK, MATERIALS, REGULATIONS, RULES, PERMITS, ETC., OF ALL STATE, COUNTY AND LOCAL GOVERNMENTS, AND ALL UTILITY AGENCIES SHALL BE FOLLOWED BY THE CONTRACTOR.
11. PENETRATIONS: ALL WALL PENETRATIONS SHALL BE SEALED, AND FIRESTOPPING MATERIAL INSTALLED. COORDINATE ALL ROOF PENETRATIONS WITH ROOFING MANUFACTURER. CONTRACTOR SHALL BE SURE NOT TO VOID ROOF WARRANTY.
12. WORKING HOURS: SEE ARCHITECTURAL SHEETS.
13. ALARM: PROVIDE REMOTE OUTPUT ALARM CONTACT WITH AC UNITS OR PUMPS FOR FUTURE CONNECTION ALARM MONITORING. ALARM MONITORING BY OTHERS.

SYMBOL & ABBREVIATIONS

SYMBOL	ABBREVIATION	DESCRIPTION
———	EX.	EXISTING TO REMAIN
- - - - - -	DEM.	DEMOLISH AND REMOVE
———	NEW	NEW WORK
	CR	CEILING RETURN GRILLE
	CD	CEILING DIFFUSER OR SUPPLY REGISTER
	VD	VOLUME DAMPER
	FD	FIRE DAMPER
6x8	–	DUCT SIZE, 1ST # IS DIMENSION SHOWN
	SR	SIDE REGISTER
AL	AL	ACOUSTIC LINING
	–	SUPPLY DUCT UP
	–	SUPPLY DUCT DOWN
	–	RETURN DUCT UP
	–	RETURN DUCT DOWN
	–	TRANSITION FROM ROUND TO SQUARE
	–	DISCHARGE DIRECTION
	–	RETURN AIR INTO GRILLE/EXHAUST AIR
M	–	MOTORIZED DAMPER
ø	–	DIAMETER
–	OAI	OUTSIDE AIR INTAKE
–	CFM	CUBIC FEET PER MINUTE
–	FC	FLEXIBLE CONNECTION
–	FD/AD	FIRE DAMPER W/ACCESS DOOR
–	TG	TRANSFER GRILLE
–	TAO	TRANSFER AIR OPENING
–	VAV	VARIABLE AIR VOLUME
T	T	TEMPERATURE SENSOR
SP	SP	PRESSURE SENSOR
CO	CO	CARBON MONOXIDE SENSOR
NO_2	NO_2	NITROGEN DIOXIDE SENSOR
	NIC/N.I.C	NOT IN CONTRACT
	HRV/H.R.V.	HEAT RECOVERY VENTILATOR
	P.E.F/PEF	PROPELLER EXHAUST FAN
	EFM/E.F.M.	EXHAUST FAN MUSHROOM
	P.O.C.	POINT OF CONNECTION
T		THERMOSTAT (POINTING TO UNIT)
UC		UNDERCUT DOOR (DIRECTION OF AIRFLOW)
L		LOUVER IN DOOR (DIRECTION OF AIRFLOW)
	T.B.O.D.	TO BOTTOM OF DUCT
	OBD	OPPOSABLE BLADE DAMPER
EG 50		EXHAUST GRILLE
CD 150		CEILING DIFFUSER
SG 150		SUPPLY GRILLE
TG 100		TRANSFER GRILLE
RG 350		RETURN GRILLE
CR 300		CEILING RETURN

IN CHARGE OF JAI PUNNOOSE, P.E.
CHECKED BY
MADE BY VINCENT LEONE, P.E.

ANY ABATEMENT REQUIRED SHALL BE DONE BY OTHERS.

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RECORD DRAWING CERTIFICATION

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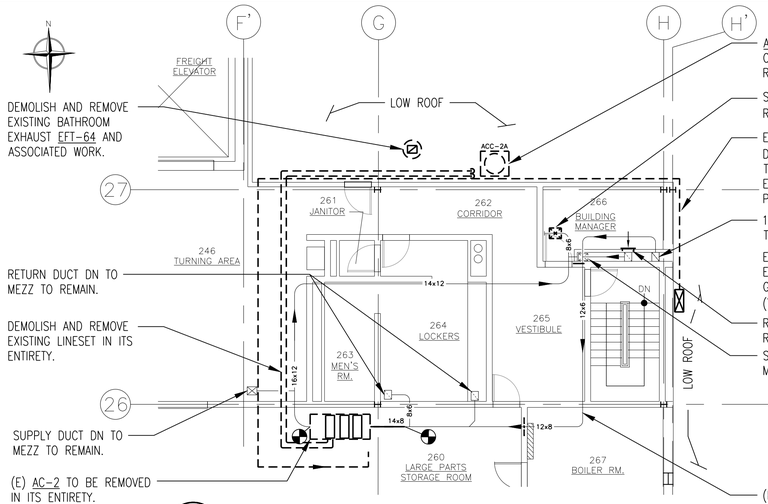
WESTCHESTER COUNTY, NEW YORK
DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION
DIVISION OF ENGINEERING

REPLACEMENT OF HVAC SYSTEMS AND ASSOCIATED WORK
BEE-LINE CENTRAL MAINTENANCE FACILITY (DOT-CMF)
475 SAW MILL RIVER ROAD, YONKERS, NEW YORK
HVAC NOTES, DETAILS AND LEGEND

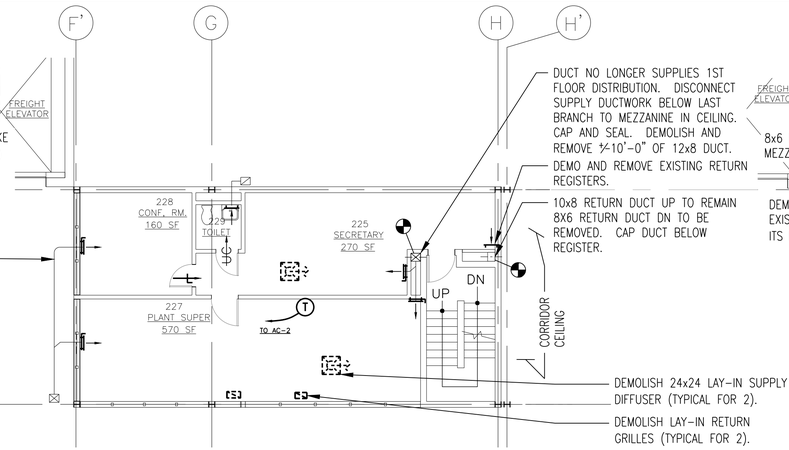
CONTRACT NUMBER	22-524
SHEET NUMBER	HV-1
SHEET NO. 8 OF 21	
SCALE: AS SHOWN	
DATE: 12/1/2023	
DPW FILE NO.	61-10-HV-412
REV. NO.	0



1 HV-2 2ND FLOOR OFFICE DEMOLITION PLAN

SCALE: 1/8" = 1'-0"

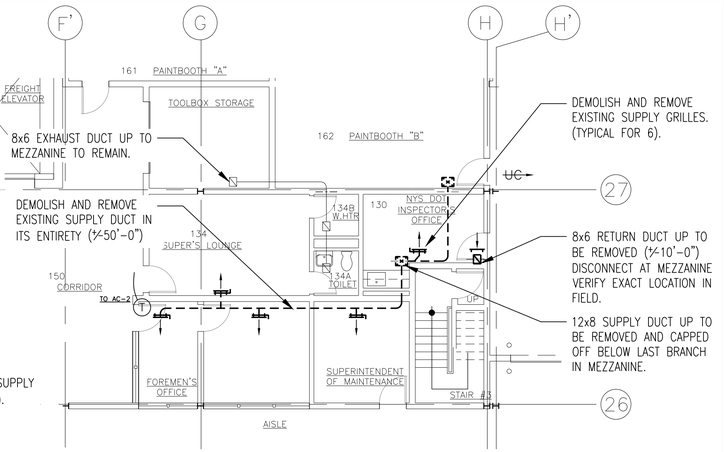
2ND FLOOR @± 126'-9"
(2ND FLOOR ROOF @± 145'-11")



2 HV-2 MEZZANINE OFFICE DEMOLITION PLAN

SCALE: 1/8" = 1'-0"

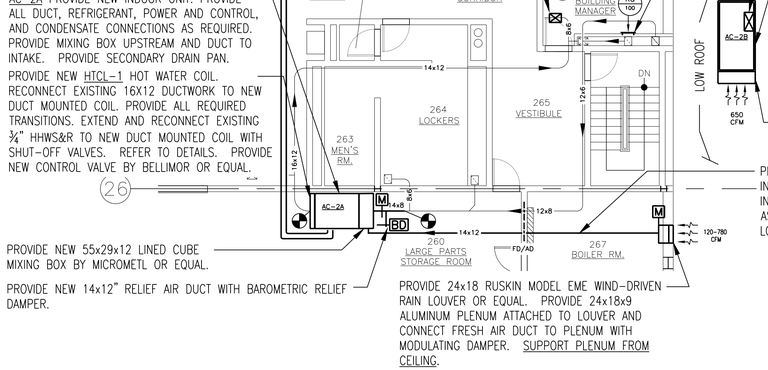
MEZZ. FLOOR @± 117'-5"



3 HV-2 1ST FLOOR OFFICE DEMOLITION PLAN

SCALE: 1/8" = 1'-0"

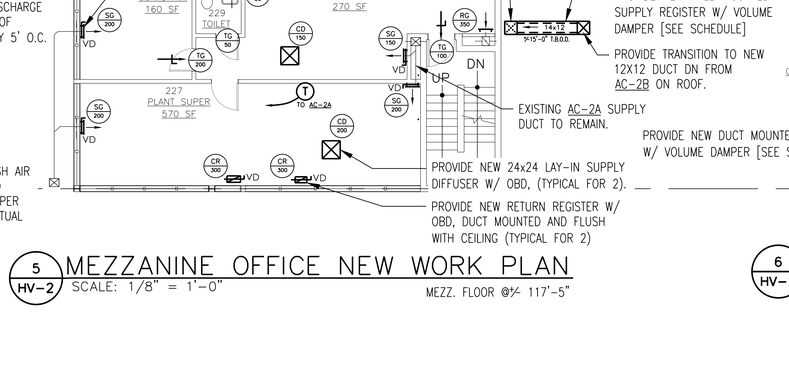
1ST FLOOR @± 107'-5"



4 HV-2 2ND FLOOR OFFICE NEW WORK PLAN

SCALE: 1/8" = 1'-0"

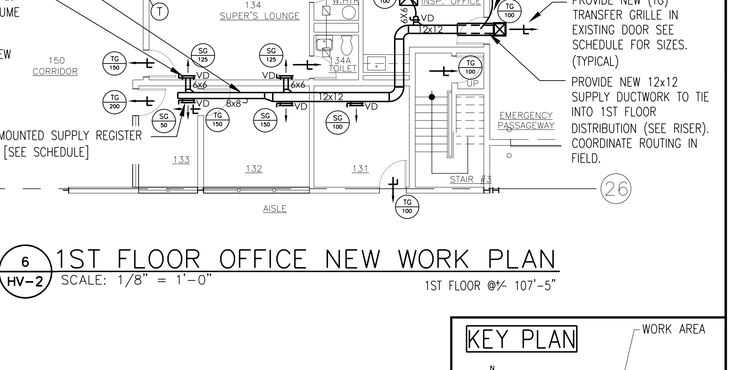
2ND FLOOR @± 126'-9"
(2ND FLOOR ROOF @± 145'-11")



5 HV-2 MEZZANINE OFFICE NEW WORK PLAN

SCALE: 1/8" = 1'-0"

MEZZ. FLOOR @± 117'-5"

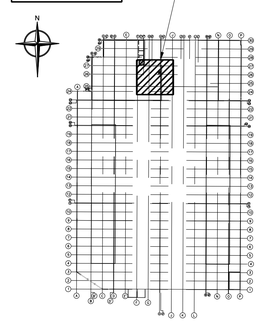


6 HV-2 1ST FLOOR OFFICE NEW WORK PLAN

SCALE: 1/8" = 1'-0"

1ST FLOOR @± 107'-5"

KEY PLAN



IN CHARGE OF JAI PUNNOOSE, P.E.
CHECKED BY
MADE BY VINCENT LEONE, P.E.

REVISION NUMBER	DATE	MADE BY	APP'D BY	REVISION

RECORD DRAWING CERTIFICATION

☐ AS BUILT – CHANGES AS NOTED
☐ AS BUILT – NO CHANGES

CONTRACTOR
NAME
SIGNATURE
TITLE DATE

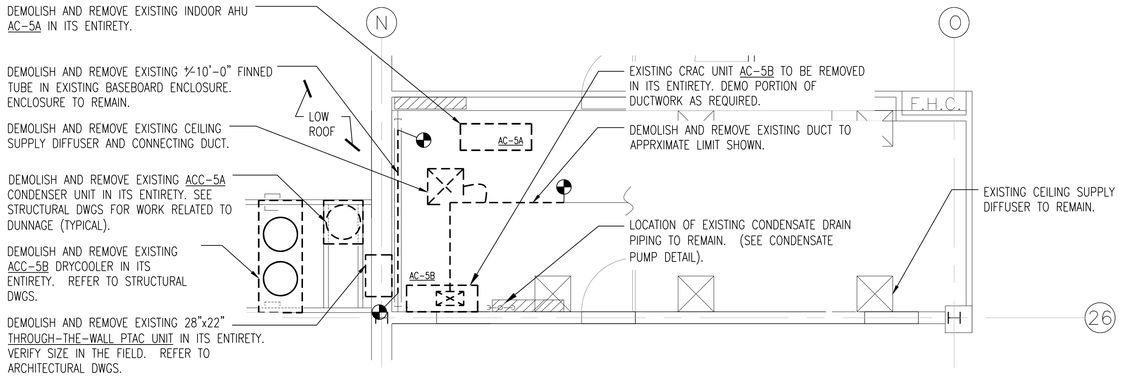
PROJECT COORDINATOR
NAME
SIGNATURE
TITLE DATE

WESTCHESTER COUNTY, NEW YORK
DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION
DIVISION OF ENGINEERING

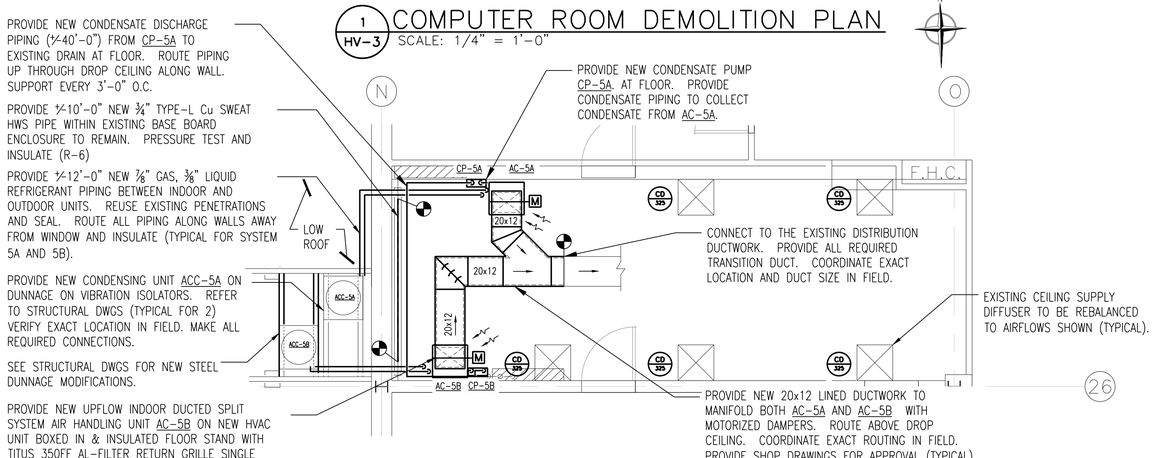
REPLACEMENT OF HVAC SYSTEMS AND ASSOCIATED WORK
BEE-LINE CENTRAL MAINTENANCE FACILITY (DOT-CMF)
475 SAW MILL RIVER ROAD, YONKERS, NEW YORK
OFFICE AREA PLANS: 1ST FLR, MEZZANINE, & 2ND FLR

CONTRACT NUMBER	SHEET NUMBER
22-524	HV-2

SHEET NO. 9 OF 21
SCALE: AS SHOWN
DATE: 12/1/2023
DPW FILE NO. 61-10-HV-413
REV. NO. 0

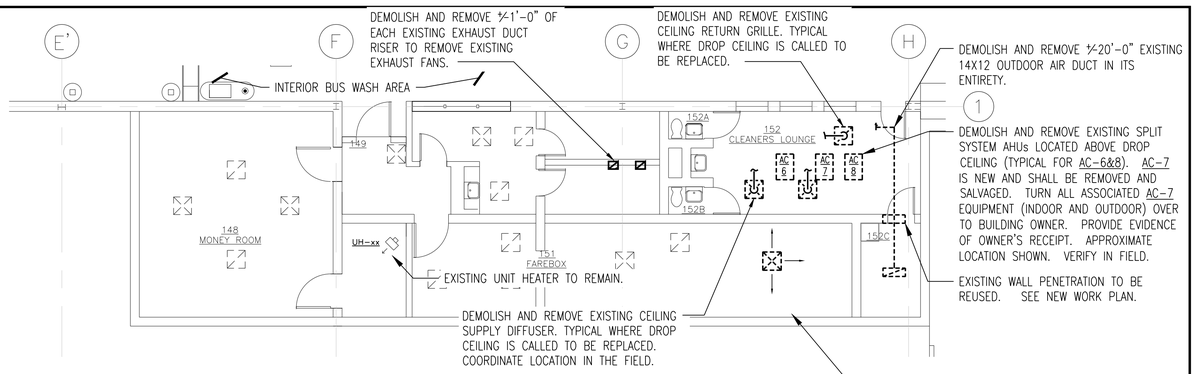


1 HV-3 COMPUTER ROOM DEMOLITION PLAN
SCALE: 1/4" = 1'-0"

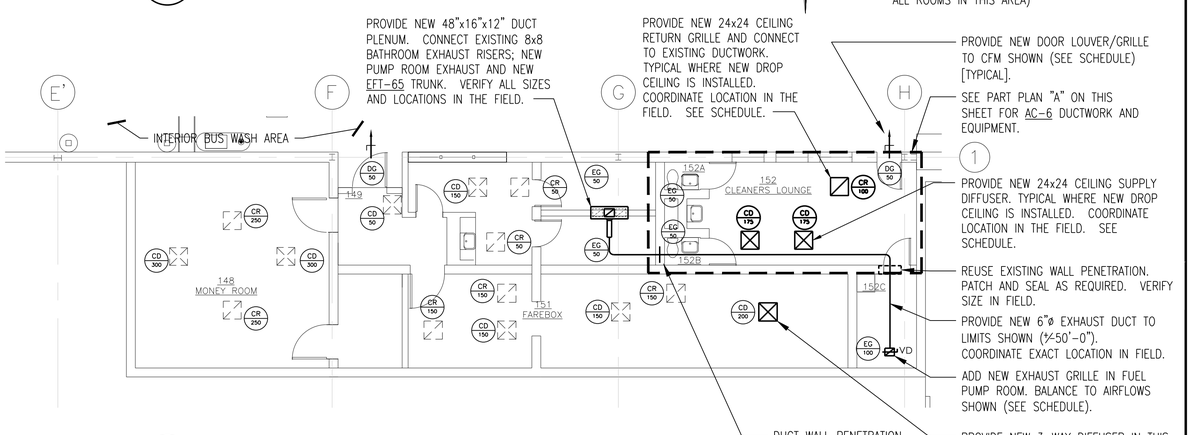


2 HV-3 COMPUTER ROOM NEW WORK PLAN
SCALE: 1/4" = 1'-0"

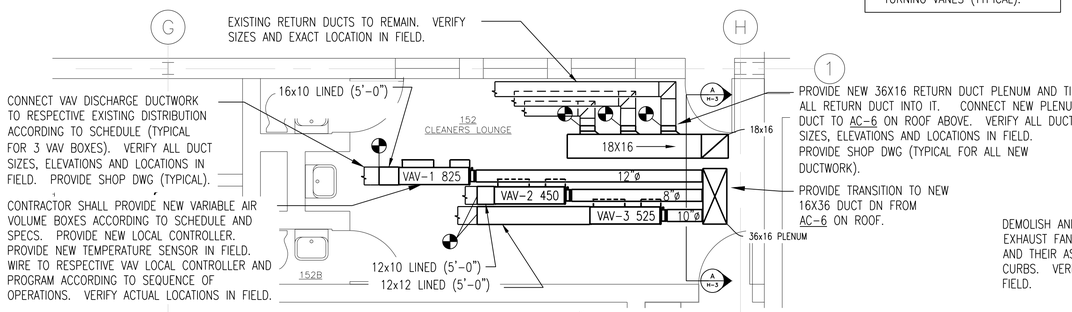
* PROVIDE ALL NEW ELBOWS WITH TURNING VANES (TYPICAL).



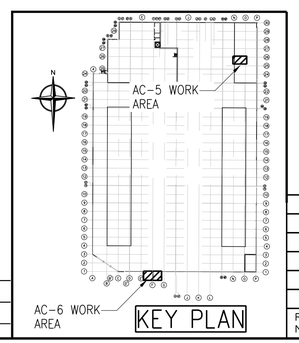
3 HV-3 CLEANER'S LOUNGE DEMOLITION PLAN
SCALE: 1/8" = 1'-0"

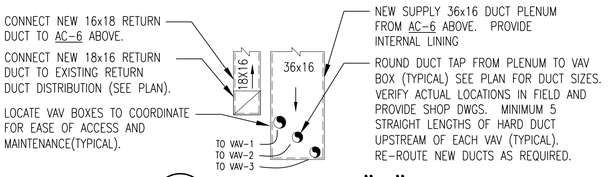


4 HV-3 CLEANER'S LOUNGE NEW WORK PLAN
SCALE: 1/8" = 1'-0"

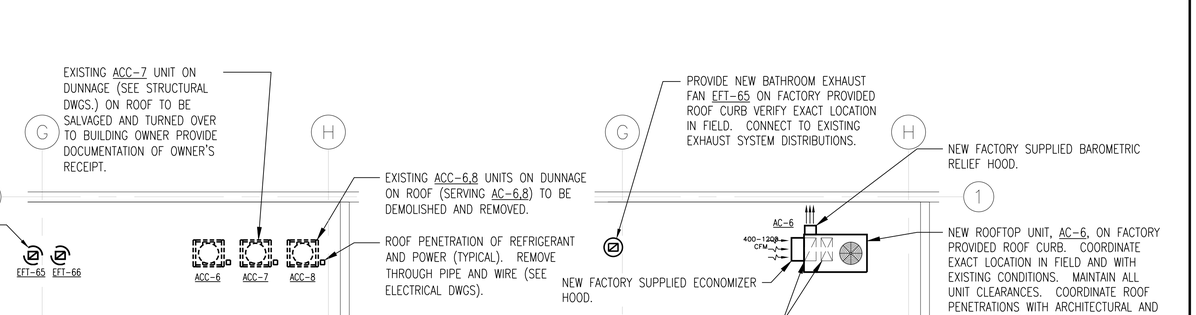


5 HV-3 PART PLAN "A"
SCALE: 1/4" = 1'-0"





A HV-3 ELEVATION "A"
SCALE: 1/4" = 1'-0"



6 HV-3 ROOF DEMO PLAN
SCALE: 1/8" = 1'-0"

7 HV-3 ROOF NEW WORK PLAN
SCALE: 1/8" = 1'-0"

IN CHARGE OF JAI PUNNOOSE, P.E.
CHECKED BY
MADE BY VINCENT LEONE, P.E.

REVISION NUMBER	DATE	MADE BY	APP'D BY	REVISION

RECORD DRAWING CERTIFICATION
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PROJECT COORDINATOR
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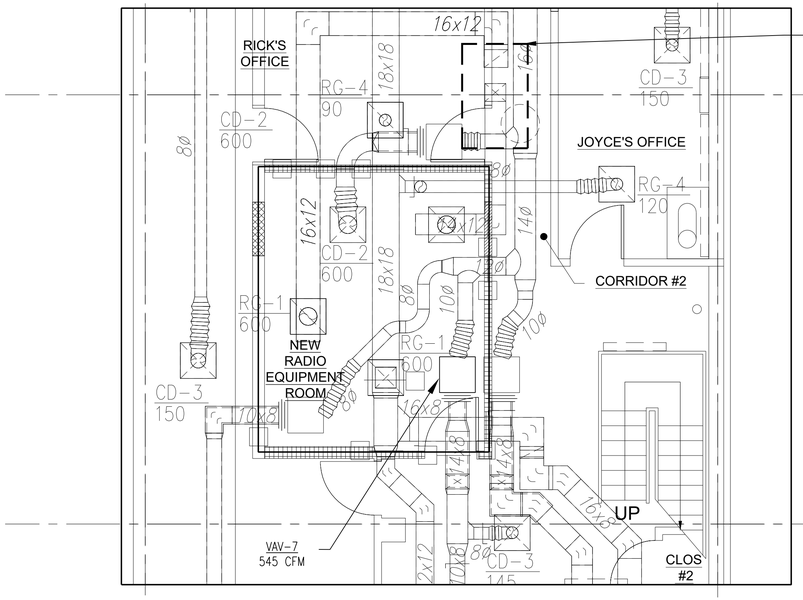
TITLE DATE

WESTCHESTER COUNTY, NEW YORK
DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION
DIVISION OF ENGINEERING

REPLACEMENT OF HVAC SYSTEMS AND ASSOCIATED WORK
BEE-LINE CENTRAL MAINTENANCE FACILITY (DOT-CMF)
475 SAW MILL RIVER ROAD, YONKERS, NEW YORK
COMPUTER ROOM AND CLEANER'S LOUNGE PLANS

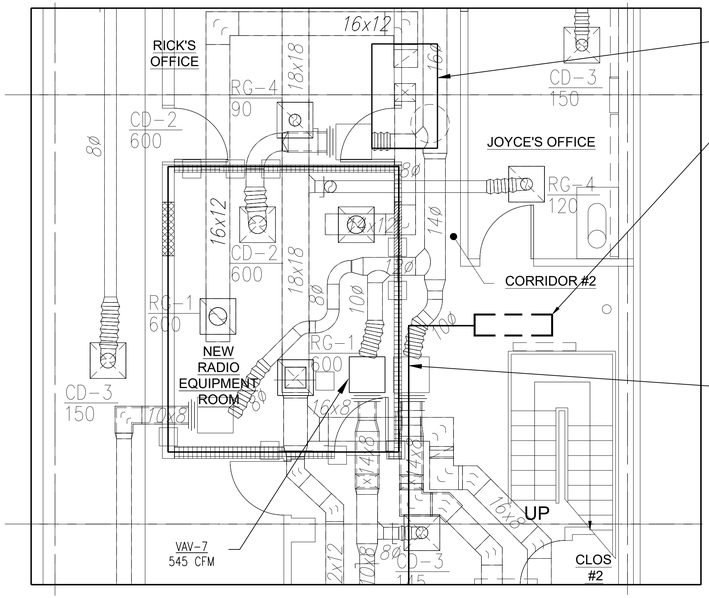
CONTRACT NUMBER	SHEET NUMBER
22-524	HV-3

SHEET NO. 10 OF 21
SCALE: AS SHOWN
DATE: 12/1/2023
DPW FILE NO. 61-10—HV-414
REV. NO. 0



DMOLISH AND REMOVE EXISTING RTU-2 EXISTING CURB TO REMAIN. INSPECT EXISTING GASKETS AND REPLACE AS REQUIRED.

1 HV-4 RADIO EQUIP. ROOM HVAC DEMO PLAN
SCALE: 1/4" = 1'-0"

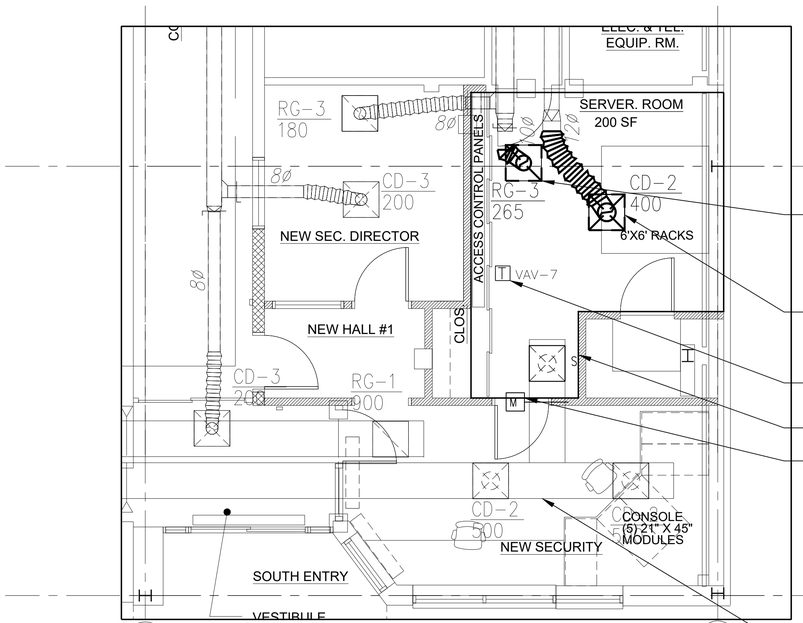


PROVIDE NEW RTU-2 ROOFTOP HEAT PUMP ON EXISTING CURB.

PROVIDE NEW CONDENSING UNIT ACC-25 ON ON 12" HIGH EQUIPMENT SUPPORT (SEE SPECS). VERIFY EXACT LOCATION IN FIELD. MAKE ALL REQUIRED CONNECTIONS. BRACE EQUIPMENT TO EXISTING EQUIPMENT WITH UNITSTUT. PROVIDE BRACING PLAN WITH SHOP DWGS.

NEW AC-25 LINESET ROUTED THROUGH CEILING (APPROX. 50' TOTAL LAY LENGTH BETWEEN INDOOR AND OUTDOOR UNITS). COORDINATE ACTUAL LENGTH IN FIELD.

2 HV-4 RADIO EQUIP. ROOM NEW WORK PLAN
SCALE: 1/4" = 1'-0"



EXISTING RETURN GRILLE TO BE RELOCATED TO NEW LOCATION SHOWN. EXTEND FLEXIBLE DUCTWORK AS REQUIRED.

EXISTING CEILING DIFFUSER TO BE RELOCATED TO NEW LOCATION SHOWN EXTEND FLEXIBLE DUCTWORK AS REQUIRED.

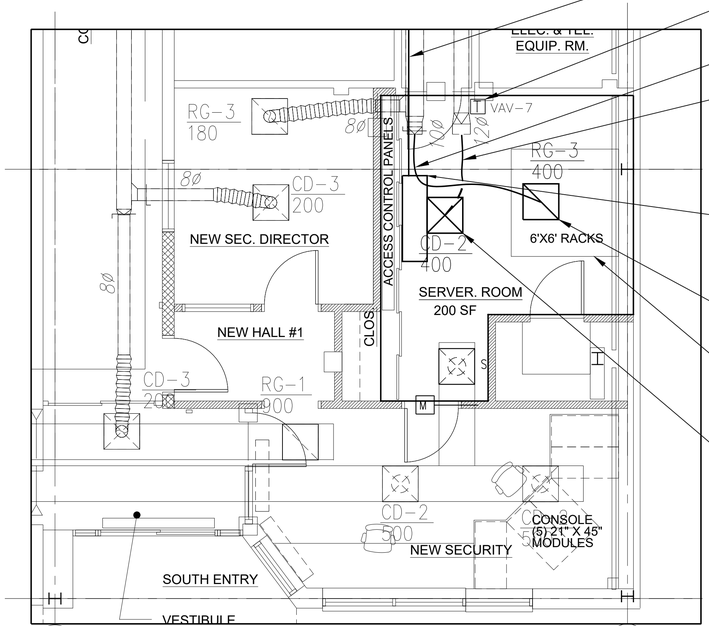
RELOCATE VAV-7 THERMOSTAT FROM THIS WALL (SEE NEW PLAN).

EXISTING MOTORIZED DAMPER SWITCH.

EXISTING MOTORIZED DAMPER WITH SWITCH. LABEL ABOVE SWITCH "BACKUP COOLING ONLY".

EXISTING INSULATED DUCTWORK FROM RTU-10 TO SECURITY ROOM.

3 HV-4 SERVER ROOM HVAC DEMO PLAN
SCALE: 1/4" = 1'-0"



NEW AC-25 LINESET (CONT.)

PROVIDE NEW AC-25 SPLIT SYSTEM THERMOSTAT BESIDE NEW LOCATION OF VAV-7 THERMOSTAT.

RECONNECT FLEXIBLE DUCT TO RETURN GRILLE IN NEW LOCATION.

RECONNECT FLEXIBLE DUCT TO CEILING DIFFUSER IN NEW LOCATION.

PROVIDE NEW 1-TON DUCTLESS SPLIT SYSTEM AIR INDOOR UNIT AC-25 ON WALL. PROVIDE ALL POWER, REFRIGERANT AND DRAIN CONNECTIONS. PROVIDE NEW CONDENSATE PUMP CP-25 AND ROUTE ALONG LINESET TO ROOF AND DISCHARGE TO NEAREST ROOF DRAIN.

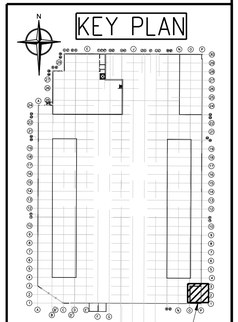
NEW LOCATION FOR RETURN GRILLE. REBALANCE TO AIRFLOW SHOWN.

PROVIDE CONTAINMENT AROUND SERVER RACK TO DIRECT HEATED AIR UPWARD TO REGISTER. LEAVE OPENING IN FRONT FOR AIRFLOW. CONTAINMENT PANELS BY SUB-ZERO ENGINEERING OR EQUAL.

NEW LOCATION FOR CEILING DIFFUSER. REBALANCE TO AIRFLOW SHOWN.

4 HV-4 SERVER ROOM NEW WORK PLAN
SCALE: 1/4" = 1'-0"

KEY PLAN



AC-25 AND RTU-2 WORK AREA

IN CHARGE OF JAI PUNNOOSE, P.E.
CHECKED BY
MADE BY VINCENT LEONE, P.E.

REVISION NUMBER	DATE	MADE BY	APP'D BY	REVISION

RECORD DRAWING CERTIFICATION

☐ AS BUILT – CHANGES AS NOTED
☐ AS BUILT – NO CHANGES

CONTRACTOR
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SIGNATURE
TITLE DATE

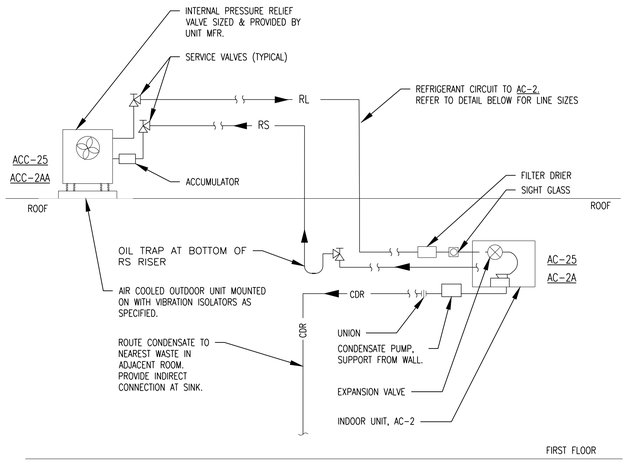
PROJECT COORDINATOR
NAME
SIGNATURE
TITLE DATE

WESTCHESTER COUNTY, NEW YORK
DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION
DIVISION OF ENGINEERING

REPLACEMENT OF HVAC SYSTEMS AND ASSOCIATED WORK
BEE-LINE CENTRAL MAINTENANCE FACILITY (DOT-CMF)
475 SAW MILL RIVER ROAD, YONKERS, NEW YORK
RADIO EQUIPMENT AND SERVER ROOM PLANS

CONTRACT NUMBER	SHEET NUMBER
22-524	HV-4

SHEET NO. 11 OF 21
SCALE: AS SHOWN
DATE: 12/1/2023
DPW FILE NO. 61-10-HV-415
REV. NO. 0



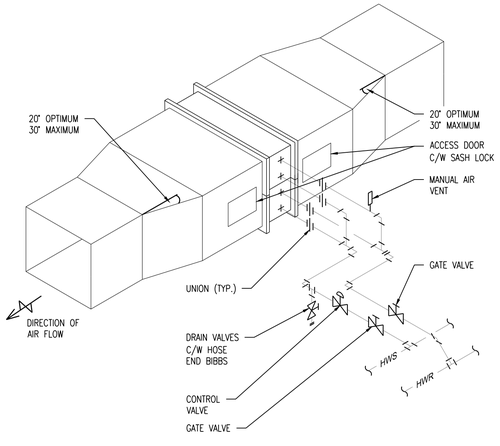
NOTES:

1. PROVIDE TRAPS AS FOLLOWS:
   - 1.A. FOR RISES UP TO 50", USE 1 TRAP AT THE BOTTOM OF THE SUCTION RISER.
   - 1.B. FOR RISES BETWEEN 50" AND 100", INSTALL A SECOND TRAP HALF WAY UP THE RISER.
   - 1.C. FOR RISES OVER 100", INSTALL TRAPS AT 1/3 INTERVALS.
2. REFRIGERANT PIPING SHALL BE INSTALLED SO THAT THEY WILL NOT OBSTRUCT SERVICE ACCESS TO EITHER THE INDOOR COIL OR CONDENSING UNIT, THE AIR HANDLER IN GENERAL OR THE FILTER.
3. SLOPE HORIZONTAL SUCTION LINES APPROX. 1" EVERY 20 FEET TOWARD THE CONDENSING UNIT TO FACILITATE OIL RETURN.
4. ALL FASTENERS AND SUPPORTS LOCATED OUTDOORS SHALL BE GALVANIZED

1 HV-5 REFRIGERANT PIPING SCHEMATIC
SCALE: NONE

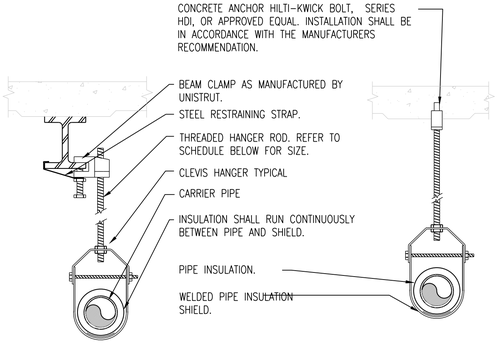
SPLIT SYSTEM INSTALL. NOTES:

1. PRESSURE TEST AND EVACUATE: REFRIGERATION PIPE WORK SHALL BE PRESSURE TESTED AND EVACUATED AS PER THE PRESSURE TEST AND EVACUATION METHOD STATEMENTS IN THE INSTALLATION MANUAL.
2. CHARGE REFRIGERANT PIPING: CONTRACTOR SHALL CORRECT REFRIGERATION TRIM CHARGE HAS BEEN ADDED AND SERVICE VALVES OPENED.
3. CONDENSATE DRAIN: ALL CONDENSATE DRAIN PIPE WORK SHALL BE COMPLETE.
4. CONNECT POWER: POWER SUPPLY (SOURCE VOLTAGE) TO ALL UNITS SHALL BE CHECKED PRIOR TO SWITCHING ON. ENSURE THAT THE INDOOR UNIT POWER SUPPLY (SOURCE VOLTAGE) ISOLATOR IS SWITCHED ON BEFORE THE OUTDOOR UNIT.
5. CHECK ADDRESS SETTINGS: ALL UNITS, REMOTE CONTROLLERS AND CENTRALIZED CONTROLLERS IN THE SYSTEM SHALL HAVE CORRECT ADDRESS SETTINGS PRIOR TO TURNING ON POWER TO THE OUTDOOR UNIT.
6. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.



4 HV-5 DUCT HOT WATER COIL DETAIL
SCALE: NONE

IN CHARGE OF JAI PUNNOOSE, P.E.
CHECKED BY
MADE BY VINCENT LEONE, P.E.

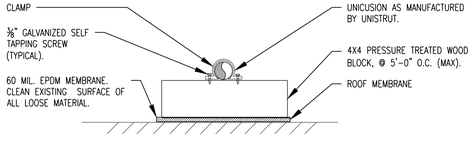


PIPE HANGER SCHEDULE					
PIPE DIA.	3/4"-2"	2 1/2"-3"	4"-5"	6"	8"-12"
HANGER DIA.	3/8"	1/2"	5/8"	3/4"	7/8"

NOTES:

1. CLEVIS HANGERS WITH WELDED INSULATION SHEILDS SIMILAR TO RAUCH FIG. 100SH ON ALL PIPES LARGER THAN 1".
2. FOR PIPES 1" OR SMALLER, A BAND HANGER WITH INSULATION SHEILD MAY BE USED SIMILAR TO RAUCH FIG. NO. 1ASH.
3. FOR NONINSULATED PIPE, INSULATION SHEILDS MAY BE OMITTED.
4. ALL PIPE HANGERS SHALL BE GALVANIZED STEEL OR FACTORY PAINTED BLACK WITH ENAMEL.
5. FOR NON FERROUS PIPING WITHOUT INSULATION, ALL HANGERS SHALL BE COPPER PLATED OR FURNISHED WITH A DI-ELECTRIC BETWEEN PIPE AND HANGERS.

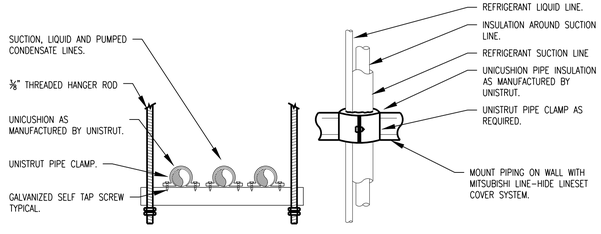
2 HV-5 PIPE HANGER DETAIL
SCALE: NONE



NOTES:

1. ALL ROOFING WORK TO BE PERFORMED BY THE ROOF CONTRACTOR.
2. USE ONLY THOSE MATERIALS COMPATIBLE WITH THE ROOF SYSTEM.

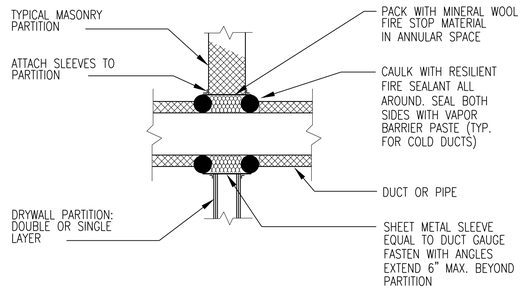
5 HV-5 ROOF COND. PIPE SUPPORT DETAIL
SCALE: NONE



NOTES:

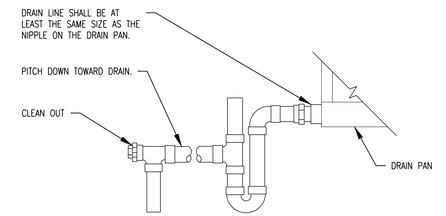
1. LIQUID AND SUCTION LINES MAY BE ROUTED TOGETHER FOR CONVENIENCE, BUT MUST BE COMPLETELY INSULATED FROM EACH OTHER. DO NOT SOLDER LIQUID AND SUCTION LINES TOGETHER. DO NOT ALLOW METAL TO METAL CONTACT.
2. LINES SHOULD BE INSTALLED WITH AS FEW BENDS AS POSSIBLE, ALLOWING SERVICE ACCESS TO THE INDOOR COIL.
3. USE LONG RADIUS ELBOWS WHEREVER POSSIBLE, EXCEPT IN OIL RETURN TRAPS, WHERE SHORT RADIUS ELBOWS SHOULD BE USED.
4. SLOPE HORIZONTAL SUCTION LINES 1 INCH EVERY 20 FEET TOWARD THE OUTDOOR UNIT.

7 HV-5 REFRIGERANT PIPE SUPPORT DETAILS
SCALE: NONE



NOTE:
DETAIL APPLIES TO ALL WALLS EXTENDING UP TO DECK. UL LISTED FIRE SEALANT SYSTEMS INSTALLED PER MANUFACTURER INSTRUCTIONS MAY BE SUBSTITUTED FOR 1-HR FIRE RATING WHEN APPROVED BY ENGINEER. DETAIL DOES NOT APPLY TO PARTITIONS FIRE RATED AT 2HRS OR MORE.

3 HV-5 DUCT-WALL PENETRATION DETAIL
SCALE: N.T.S.

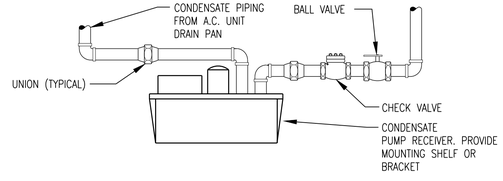


DESIGNER'S NOTE:

UNIT TYPE	A	B
DRAW THRU	2" PLUS X	X
BLOW THRU	1" MINIMUM	2X

WHERE X = STATIC PRESSURE IN PAN

6 HV-5 AHU CONDENSATE TRAP DETAIL
SCALE: NONE



8 HV-5 CONDENSATE PUMP DETAIL
SCALE: NONE

WESTCHESTER COUNTY, NEW YORK
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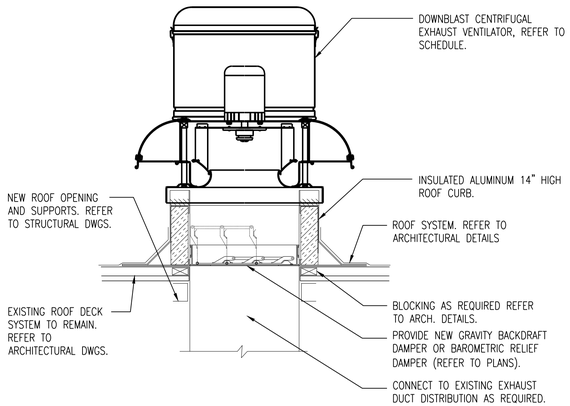
DIVISION OF ENGINEERING

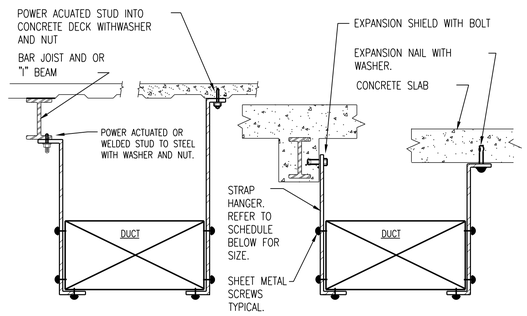
REPLACEMENT OF HVAC SYSTEMS AND ASSOCIATED WORK
BEE-LINE CENTRAL MAINTENANCE FACILITY (DOT-CMF)
475 SAW MILL RIVER ROAD, YONKERS, NEW YORK
DETAILS 1

CONTRACT NUMBER	SHEET NUMBER
22-524	HV-5
SHEET NO. 12 OF 21	
SCALE: AS SHOWN DATE: 12/1/2023	
DPW FILE NO. 61-10-HV-416	REV. NO. 0



1. ALL DUCTWORK, INSULATION ETC. SHALL BE FURNISHED AND INSTALLED BY THIS CONTRACTOR.
2. ALL ROOF OPENING, CUTTING, PATCHING ETC. BY GENERAL CONTRACTOR.
3. MECHANICAL CONTRACTOR SHALL PROVIDE FACTORY SUPPLIED FAN ROOF CURB AND GENERAL CONTRACTOR SHALL INSTALL IT. MECHANICAL CONTRACTOR SHALL COORDINATE INSTALLATION WITH DUCT ROUTING AND DUCT CONNECTION TO EXHAUST FAN.
4. ROOF WORK/CURB PER ARCHITECTURAL DRAWINGS.

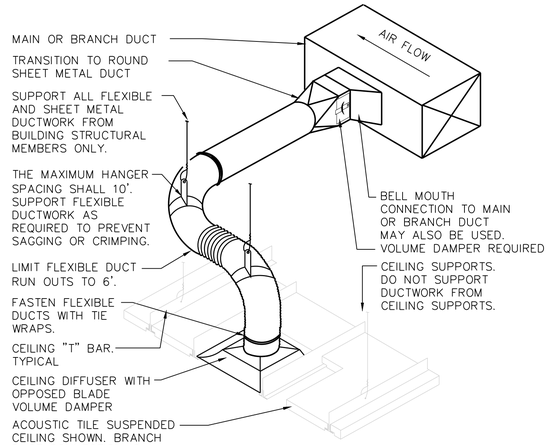
1 EXHAUST FAN DETAIL
HV-6 SCALE: NONE



NOTES:
1. FOR DUCTS OVER 49" WIDE, THE STRAP HANGER SHALL BE TURNED UNDER THE BOTTOM OF THE DUCT.
2. CONTRACTOR SHALL SUBMIT DUCT HANGER DETAIL TYPICAL ARRANGEMENT OF TRUSS AND ARRANGEMENT ENCOUNTERED AT JOB SITE.

HANGER STRAP SCHEDULE		
DUCT SIZE	HANGER SIZE	MAXIMUM SPACING
UP TO 2 SQ.FT.	1" X 1/16"	8'-0"
2 SQ. FT. TO 4 SQ.FT.	1" X 1/8"	8'-0"
4 SQ.FT. TO 10 SQ.FT.	1" X 1/8"	6'-0"
OVER 10 SQ.FT.	1" X 1/8"	4'-0"

2 DUCT HANGER DETAIL
HV-6 SCALE: NONE



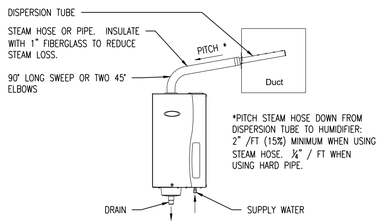
NOTE:
THIS BRANCH DUCT ARRANGEMENT IS SIMILAR FOR PLENUM SLOT DIFFUSERS, IF USED.

3 FLEXIBLE CONNECTION DETAIL
HV-6 SCALE: NONE

PLAN VIEW

NOTES:
1. THE OPERATION OF VARIABLE VOLUME TERMINAL UNITS ARE AFFECTED BY EXCESSIVE TURBULENCE ON THE ENTERING SIDE OF EACH TERMINAL UNIT. THEREFORE, TERMINAL UNITS MUST NOT BE INSTALLED TO CLOSE TO MAIN DUCTS, ELBOWS AND FITTINGS.
2. WHEN MINIMUM UPSTREAM STRAIGHT DUCT CONNECTION TO TERMINALS AS INDICATED ABOVE CANNOT BE MAINTAINED, PROVIDE ORIFICE PLATE, STRAIGHTENING VANES OR OTHER DEVICE AS RECOMMENDED BY TERMINAL UNIT MANUFACTURER AND SUBMIT TO ENGINEER FOR REVIEW PRIOR TO INSTALLATION.
3. ARRANGE ACCESS TO PERMIT EASY FIELD BALANCE AND MAINTENANCE OF TERMINAL UNIT.
4. MANUFACTURER OF TERMAINAL UNIT SHALL PROVIDE THE FOLLOWING:
   - 4.1. FIBER FREE LINER
   - 4.2. BOTTOM ACCESS DOOR
   - 4.3. 24 VAC CONTROL TRANSFORMER
   - 4.4. TOGGLE DISCONNECT SWITCH
   - 4.5. HANGER BRACKETS
   - 4.6. CONTROL ENCLOSURE FOR FIELD MOUNTED CONTROLS

4 VAV UNIT INSTALL. DETAIL
HV-6 SCALE: NONE



5 HUMIDIFIER DETAIL
HV-6 SCALE: NONE

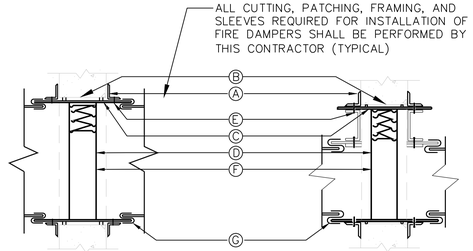


FIG. 1 FIG. 2

NOTES:
- (A) RETAINING ANGLES SHALL BE A MINIMUM 1-1/2"x1-1/2"x16 GAUGE AND MUST OVERLAP THE STRUCTURAL OPENING BY A MINIMUM OF 1".
- (B) CLEARENCE BETWEEN SLEEVE AND OPENING SHALL BE 1/8" PER LINEAR FOOT, AS PER SMACNA FIG. 2-1.
- (C) STEEL SLEEVE SHALL BE AS PER SMACNA TABLE 2-2.
- (D) U.L. APPROVED FIRE DAMPER
- (E) SECURE RETAINING ANGLES TO SLEEVE ONLY AT 8" CENTERS AS PER SMACNA FIG. 2-1
- (F) SECURE DAMPER TO SLEEVE AT 8" CENTERS AS PER SMACNA FIG. 2-1.
- (C) CONNECT DUCT TO SLEEVE WITH BREAK-AWAY CONNECTION AS PER SMACNA FIG. 2-2.

1.) FIRE DAMPERS TO BE CONSTRUCTED AND INSTALLED ACCORDING TO NFPA 90A, UL LABELS AND THE LATEST ISSUE OF S.M.A.C.N.A. CHAPTER 2.

2.) CURTAIN TYPE FIRE DAMPERS SHOWN, MULTI-BLADE PIVOTED FIRE DAMPERS MEETING THE ABOVE STANDARD WILL BE ACCEPTABLE.

3.) PROVIDE ACCESS DOORS. INSTALL (1) AD FOR EACH FIRE DAMPER AS PER SMACNA FIG. 6-1.

4.) FOR DUCT 12" OR LESS IN DEPTH, FIRE DAMPER SHALL BE OUT OF THE AIR STREAM. REFER TO FIGURE 2.

6 FIRE DAMPER DETAIL
HV-6 SCALE: NONE

IN CHARGE OF JAI PUNNOOSE, P.E.
CHECKED BY
MADE BY VINCENT LEONE, P.E.

WESTCHESTER COUNTY, NEW YORK
DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION
DIVISION OF ENGINEERING

REPLACEMENT OF HVAC SYSTEMS AND ASSOCIATED WORK
BEE-LINE CENTRAL MAINTENANCE FACILITY (DOT-CMF)
475 SAW MILL RIVER ROAD, YONKERS, NEW YORK
DETAILS 2

CONTRACT NUMBER	SHEET NUMBER
22-524	HV-6
SHEET NO. 13 OF 21	
SCALE: AS SHOWN	
DATE: 12/1/2023	
DPW FILE NO. 61-10-HV-417	REV. NO. 0

SPLIT SYSTEM SCHEDULE

			AC-5A & 5B COMPUTER ROOM (DWG H-3)	AC-5A & 5B COMPUTER ROOM (DWG H-3)	AC-25 SERVER ROOM (DWG H-4)
COOLING AT 95°F1	RATED CAPACITY	BTU/H	36,000	60,000	12,000
	RATED POWER INPUT	W			1,190
	SEER				15.2
	EER1				
	HSPF [IV]				
	COP AT 47°F2				
	COP AT -4°F AT MAXIMUM CAPACITY				
ELECTRICAL	VOLTAGE, PHASE, FREQUENCY		208/230, 1, 60	208/230, 1, 60	208/230, 1, 60
INDOOR UNIT	MAKE/ **MODEL**		TRANE / GAF5B0C60M51EA	TRANE / GAF5BC60M51EA	MITSUBISHI / PKA-A12HA
	MCA	A			1.0
	FLA	A	4.1	7.6	.33
	FAN MOTOR OUTPUT		1/2 HP	1 HP	30 W
	AIRFLOW RATE AT COOLING, DRY	CFM	1200	1700	425
	EXTERNAL STATIC PRESSURE	in.WG		0.5	
	DRAIN PIPE SIZE	In.	¾" NPT	¾" NPT	⅝" O.D.
	UNIT DIMENSIONS	W x D x H: In.	55-3/4 x 21-1/4 x 21-3/4	61-3/4 x 23-1/2 x 21-3/4	35-3/8 x 9-13/16 x 11-5/8
	UNIT WEIGHT	Lbs.	142	170	29
OUTDOOR UNIT	MAKE/ **MODEL**		TRANE / 4TTR4036A1000B	TRANE / 4TTR7060A1000A	MITSUBISHI / PUY-A12NHA3
	MCA	A	24	41	13
	MOCP	A	35	60	15
	REFRIGERANT CONTROL		TXV	TXV	
	UNIT DIMENSIONS [W x D x H: In.]		51 x 35.1 x 38.7	51 x 35.1 x 38.7	31 ½" x 13 ⅞" x 23 ⅝"
	UNIT WEIGHT	Lbs. [kg]	245	275	90
UNIT OPERATING TEMPERATURE RANGE	COOLING AIR TEMP [MAXIMUM / MINIMUM]*	°F			115 DB / 0 DB
	HEATING AIR TEMP [MAXIMUM / MINIMUM]	°F			
REFRIGERANT	TYPE		R410A	R410A	R410A
	MAXIMUM CHARGE QUANTITY	Lbs, oz	9.0, 13.0	12.0, 9.0	
PIPING	GAS PIPE SIZE O.D. [FLARED]	In.	3/4	7/8	1/2
	LIQUID PIPE SIZE O.D. [FLARED]	In.	3/8	3/8	1/4
OPTIONS	HTCL-1 HOT WATER COIL SHALL BE TRANE MODEL DT08060413G0AA080EABA00B • CONSTRUCTION: SHALL HAVE THE FOLLOWING CONSTRUCTION: .020" COPPER TUBE ; WALL THICKNESS; ALUMINUM FIN (80 FIN/FT), 1.71 FT ACTUAL COIL FACE AREA; 6" NOM COIL HEIGHT, 41" FINNED LENGTH; GALVANIZED CASING; 18.7 LB INSTALLED WEIGHT. • PERFORMANCE: HOT WATER COIL SHALL HAVE THE FOLLOWING PERFORMANCE CHARACTERISTICS: 26.69MBH ±CAPACITY; " DUCT COIL, LOW WATER FLOW(T) COIL ± TYPE; 740 CFM; 45F EDB, 78.26 LDB; .056"W.C. APD; 433 FPM, 2.67 GPM 180F EWT, 160F LWT; 1.14 FLUID PD; 2.95FPS FLVEL; .22 GAL VOLUME; AHRI ACHC CERTIFIED;	• ANTI-SHORT CYCLE TIMER (TAYASCT501A) • EVAPORATOR DEFROST CONTROL (AY28X079) • RUBBER ISOLATOR KIT (BAYISLT101) • EXTREME CONDITION MOUNT KIT (BAYECMT004) • HARD START KIT (BAYKSKT263) • CRANKCASE HEATER KIT (BAYCCHT301) • AUTO CHARGE SOLENOID KIT (BAYCAKT001) • REFRIGERANT LINESET (TAYREFLN4*).	• ANTI-SHORT CYCLE TIMER (TAYASCT501A) • EVAPORATOR DEFROST CONTROL (AY28X079) • RUBBER ISOLATOR KIT (BAYISLT101) • EXTREME CONDITION MOUNT KIT (BAYECMT004) • HARD START KIT (BAYKSKT263) • CRANKCASE HEATER KIT (BAYCCHT301) • AUTO CHARGE SOLENOID KIT (BAYCAKT001) • REFRIGERANT LINESET (TAYREFLN4*).	• PAR-21MAA WIRED REMOTE CONTROLLER ***INDOOR UNIT*** • ***REMOTE TEMPERATURE SENSOR (PAC-SE41TS-E)*** OUTDOOR UNIT • M-NET ADAPTER (PAC-SF81MA-E) • AIR OUTLET GUIDE (PAC-SG68SG-E) • WIND BAFFLE (WB-PA1) • LIMITED WARRANTY: FIVE YEARS ON PARTS AND DEFECTS AND SEVEN YEARS ON COMPRESSORS

ROOFTOP UNIT SCHEDULE

	AC-2B 1ST FLR OFFICES (DWG H-2)	AC-6 CLEANER'S AREA (DWG H-3)	RTU-2 NEW RAD. EQUIP. RM (DWG H-3)
MAKE MODEL	TRANE HORIZON ASHP (OABE036E3)	TRANE DHC060H3RHA**K601	TRANE 4WCC4024*1000
SIZE:	B036	5 TON	2 TON
SUPPLY AIRFLOW_DESIGN	650 CFM	1800 CFM	770 CFM
COOLING			
GROSS TOTAL CAPACITY:	43.2 MBh	58 MBh	23.8 MBh
GROSS SENSIBLE CAPACITY:	24.5 MBh	55.21 MBh	
NET TOTAL CAPACITY:	42.7 MBh	56.29 MBh	
NET SENSIBLE CAPACITY:	24 MBh	53.49 MBh	
ENTERING AIR DB / WB (COIL):	95 / 78 F	80F / 64F	
LEAVING AIR DB / WB (COIL):	59.2 / 59.0 F	54.37 / 53.99 F	
LEAVING AIR DB / WB (REHEAT):	83.4 / 67.33 F		
LEAVING AIR DB / WB (UNIT):	84.2 / 67.6 F	55.88F / 54.52F	
LEAVING DP:	58.7 F		
EVAPORATOR FACE AREA:	4.17 sq ft		3.5 sq ft
EVAPORATOR ROWS / FPI:	4 / 12	3/ 16	3 / 15
CONDENSER FACE AREA:	10.83 sq ft	17 sq ft	13.32 sq ft
CONDENSER ROWS / FPI :	2 / 14	3 / 16	2 / 24
EER / HSPF2:	14.2/ -	12.8 / -	11 / 7.0
WATTS:	3000	4690	2090
HEATING HEAT PUMP			
CAPACITY:	32.6 MBh	55.7 MBh	23.2 MBh
COP:	4.6	-	4.1
AMBIENT AIR DB:	25 F	47 F	25 F
ENTERING AIR DB / LEAVING AIR DB:	25 F / 66.7F	70 F / 95.77 F	25 F / 81.5 F
HEATING GAS FURNACE			
INPUT CAPACITY	50 MBh	150 MBh	
OUTPUT CAPACITY:	40 MBh	121.50 MBh	
ENTERING AIR DB:	50 F	70 F	
LEAVING AIR DB:	81.7 F	126.4 F	
UNIT ELECTRICAL DATA			
UNIT VOLTAGE-PH-HZ:	208-3-60	208-3-60	208-1-60
UNIT AMPS - FLA:	23.6 Amps		
MIN CIRCUIT AMPACITY - MCA:	26.5 Amps	32 Amps	20.6 Amps
MAXIMUM FUSE SIZE - MFS:	35.0 Amps	45 Amps	30.0 Amps
UNIT ELECTRICAL DATA			
LxWxH:	119 in x 52 in x 55 in	7.39 FT x 4.44 FT x 3.41 FT	48 13/16 in x 41 5/16 in x 35 3/8 in
WEIGHT (UNIT/CURB):	1378 lb / 90 lbs	1144 lb / 90 lbs	328 lb / CURB EXISTS
REFRIGERANT CHARGE CIRCUIT 1:	15.79 lbs	10.8 lbs	5.7 lbs
		FIELD INSTALLED OPTIONS: PROVIDE BAROMETRIC RELIEF DAMPER AND ECONOMIZER.	FIELD INSTALLED OPTIONS: PROVIDE ECONOMIZER (BAYECON101A) FILTER RACK (BAYFLTR101), HINGED FILTER ACCESS DOOR (BAYACCDOR1A), LOW AMBIENT KIT, 1.2" FILTER FRAME, MANUAL FRESH AIR DAMPER, CRANKCASE HEATER, LIFTING LUG KIT, 15T YR LABOR WARRANTY ON ENTIRE UNIT.

VARIABLE AIR VOLUME BOX SCHEDULE

DESIGNATION	MODEL NUMBER	UNIT SIZE	INLET SIZE	MIN CFM	MAX CFM	DESIGN CFM	LOCATION	SERVES
VAV-1	XG-TH	8	8	550	990	825	CLEANER'S LOUNGE CLG.	MONEY ROOM, CORRIDOR, LOCKER ROOM
VAV-2	XG-TH	7	7	400	760	450	CLEANER'S LOUNGE CLG.	FAREBOX ROOM
VAV-3	XG-TH	7	7	300	760	525	CLEANER'S LOUNGE CLG.	CLEANER'S LOUNGE

NOTES:
1. VAV BOXES ARE BASED ON GREENHECK AS STANDARD.
2. CONTRACTOR IS TOTALLY RESPONSIBLE FOR ALL COSTS NECESSITATED BY INSTALLATION, ELECTRICAL CHANGES, PHYSICAL ALTERATIONS AND ANY OTHER DETAILS REQUIRED FOR PROPER OPERATION OF ANY SUBSTITUTE PRODUCT BID.
3. VAV BOXES SHALL BE SINGLE DUCT, WITH DIGITAL ELECTRONIC PRESSURE INDEPENDENT CONTROLS. BOX CONTROLLER PER SPECIFICATION (VIA BMS).
4. VAV BOXES SHALL BE PROVIDED WITH FIBER FREE LINER, BOTTOM ACCESS DOOR, 24 VAC CONTROL TRANSFORMER, TOGGLE DISCONNECT SWITCH, HANGER BRACKETS, AND CONTROL ENCLOSURE FOR FIELD MOUNTED CONTROLS.

EXHAUST FAN SCHEDULE

TAG #	MANUFACTURER	MODEL #	SP (in)	HP	CFM	RPM	V/PH/HZ	ROOF CURB
EFT-64	LOREN COOK	ACE-D VF	0.375	1/8	150	925	115/1/60	RCG-18
EFT-65	LOREN COOK	ACE-D VF	0.375	1/6	250	1000	208/1/60	RCG-16

NOTES:
1. CONTRACTOR IS TOTALLY RESPONSIBLE FOR ALL COSTS NECESSITATED BY INSTALLATION, ELECTRICAL CHANGES, PHYSICAL ALTERATIONS AND ANY OTHER DETAILS REQUIRED FOR PROPER OPERATION OF ANY SUBSTITUTE PRODUCT BID.
2. DOWNBLAST CENTRIFUGAL EXHAUST VENTILATOR ROOF MOUNTED/DIRECT DRIVE ELECTRONICALLY COMMUTATED VARI-FLOW MOTOR.
3. EXHAUST FANS SHALL BE PROVIDED WITH HINGED BASE, ROOF CURB, CURB SEAL, BIRD SCREEN, DISCONNECT SWITCH AND MOTOR STARTER.
4. ALL ALUMINUM HOUSING, BACKWARD INCLINED ALL ALUMINUM WHEEL, TWO PIECE TOP CAP WITH STAINLESS STEEL QUICK RELEASE LATCHES, WELDED CURB CAP CORNERS, BIRDSCREEN , PERMANENTLY LUBRICATED BALL BEARING MOTORS, CORROSION RESISTANT FASTENERS.
5. FAN MOUNTED SPEED CONTROL, ORIFICE PLATE 81, DICONNECT NEMA 1 PRE-WIRED, BD-14 DAMPER, ROOF CURB RCG 18 13.5 H, GASKET WITH NAILER CURB, ALUMINUM BIRDSCREEN.
6. CURB SHALL BE 18-GAUGE GALVANIZED STEEL, 1-1/2" 3 LB. DENSITY THERMAL AND ACCOUSICAL INSULATION, CONTINUOUSLY WELDED CORNERS, WOOD NAILER, DAMPER TRAY, LINER, GASKET ON WOOD NAILER. ENAMEL COATING.

CEILING DIFFUSER (CD) SCHEDULE

DESIGNATION	CD	CD	CD	CD	CD	CD
MODULE SIZE	24x24	24x24	24x24	24x24	24x24	24x24
NECK SIZE (IN)	6"ø	8"ø	12"ø	14"ø	14"ø	15"ø
CFM RANGE	0-99	100-199	200-299	300-399	400-550	551-650

NOTES:
1. DIFFUSERS SHALL BE **NAILOR** AS STANDARD.
2. ALL DIFFUSERS SHALL BE EQUIPPED WITH AN OPPOSED BLADE VOLUME DAMPER.
3. COORDINATE COLOR WITH ARCHITECTURAL PLANS, FINISH SHALL BE BAKED ENAMEL.
4. SUPPLY DIFFUSERS SHALL HAVE FRAMES AND BORDERS SUITABLE FOR THE CONSTRUCTION IN WHICH THEY SHALL BE INSTALLED, COORDINATE WITH ARCHITECTURAL PLANS.
5. ALL LAY-IN DIFFUSER SHALL HAVE MODULE SIZE OF 24x24. THE FACE SIZES SHOWN IN THIS SCHEDULE ARE FOR SURFACE MOUNTED DIFFERS, IN ALL CASES THE NECK SIZE SHALL VARY ACCORDING TO THE SCHEDULE.
6. DIFFUSER BLOW PATTERN SHALL BE AS INDICATED ON THE PLANS.
7. SQUARE DIFFUSERS ARE BASED ON NAILOR MODEL 6400-OA, ALL ALUMINUM CONSTRUCTION.

CEILING RETURN GRILLE (CG/EG) SCHEDULE

DESIGNATION	RG	RG	RG	RG	RG	RG
MODULE SIZE	24x24	24x24	24x24	24x24	24x24	24x24
NECK SIZE (IN)	12x12	12x12	14x14	14x14	16x16	18x18
CFM RANGE	0-100	101-200	201-300	301-400	401-550	551-650

NOTES:
1. RETRUN GRILLES/REGISTERS SHALL BE **NAILOR** AS STANDARD.
2. ALL RETRUN GRILLES/REGISTERS SHALL BE EQUIPPED WITH AN OPPOSED BLADE VOLUME DAMPER.
3. COORDINATE COLOR WITH ARCHITECTURAL PLANS, FINISH SHALL BE BAKED ENAMEL.
4. RETRUN GRILLES/REGISTERS SHALL HAVE FRAMES AND BORDERS SUITABLE FOR THE CONSTRUCTION IN WHICH THEY SHALL BE INSTALLED, COORDINATE WITH ARCHITECTURAL PLANS.
5. SQUARE RETRUN GRILLES/REGISTERS ARE BASED ON NAILOR MODEL 5155H-OA, ALL ALUMINUM CONSTRUCTION.
6 SMALLER MODULE SIZE TO SUITE CEILING GRID LAYOUT AS REQUIRED.

DUCT SUPPLY REGISTER (SR) SCHEDULE

DESIGNATION	SR	SR	SR	SR	SR	SR
NECK SIZE (IN)	10x6	12x8	12x10	18x10	18x12	20x12
CFM RANGE	0-100	101-200	201-300	301-400	401-550	551-650

NOTES:
1. REGISTERS SHALL BE TITUS AS STANDARD.
2. ALL REGISTERS SHALL BE EQUIPPED WITH AN OPPOSED BLADE VOLUME DAMPER.
3. SUPPLY REGISTERS ARE BASED ON TITUS MODEL 300FS, ALUMINUM
4. SUPPLY REGISTERS SHALL HAVE FRAMES AND BORDERS SUITABLE FOR THE CONSTRUCTION IN WHICH THEY SHALL BE INSTALLED.
5. REGISTER BLOW PATTERN SHALL BE AS INDICATED ON THE PLANS.

DUCT RETURN GRILLE (RG/EG) SCHEDULE

DESIGNATION	RG	RG	RG	RG	RG	RG
NOM. SIZE (IN)	10x6	12x8	12x10	18x10	18x12	20x12
CFM RANGE	0-100	101-200	201-300	301-400	401-550	551-650

NOTES:
1. RETRUN GRILLES/REGISTERS SHALL BE **TITUS** AS STANDARD.
2. ALL RETRUN GRILLES/REGISTERS SHALL BE EQUIPPED WITH AN OPPOSED BLADE VOLUME DAMPER.
3. COORDINATE COLOR WITH ARCHITECTURAL PLANS, FINISH SHALL BE BAKED ENAMEL.
4. RETRUN GRILLES/REGISTERS SHALL HAVE FRAMES AND BORDERS SUITABLE FOR THE CONSTRUCTION IN WHICH THEY SHALL BE INSTALLED, COORDINATE WITH ARCHITECTURAL PLANS.
5. SQUARE RETRUN GRILLES/REGISTERS ARE BASED ON TITUS MODEL 350FS, ALL ALUMINUM CONSTRUCTION.
6. SMALLER MODULE SIZE TO SUITE CEILING GRID LAYOUT AS REQUIRED.

DOOR GRILLE (DG) SCHEDULE

DESIGNATION	DG	DG	DG	DG	DG	DG	DG
MODULE SIZE	*UNDERCUT DOOR 1"	8x6	8x8	10x8	10x10	12x12	14x14
CFM RANGE	0-100	101-200	201-250	251-300	301-400	401-600	601-800

NOTES: .097" W.C. < (DESIGN ΔP ACCROSS GRILLE) < .213" W.C.
1. AIR INLETS SHALL BE SERIES XG-DGLP MANUFACTURED BY GREENHECK. UNITS SHALL BE EXHAUST GRILLES DESIGNED TO TRANSFER AIR THROUGH DOORS OR WALLS. UNITS SHALL BE OF EXTRUDED ALUMINUM CONSTRUCTION AND WITH AN EXTRUDED ALUMINUM BORDER AND A TWO SETS OF 1" INVERTED "V" LOUVERS. THE UNITS SHALL BE THE SIZE AND QUANTITY AS OUTLINED IN THE PLANS AND SPECIFICATIONS.
2. INLETS SHALL HAVE A SINGLE 1-1/4" BORDER WITH SCREW HOLES FOR SURFACE MOUNTING. UNITS TO PROVIDE A FINISHED APPEARANCE ON ONE SIDE OF THE DOOR. LOUVERS SHALL BE ON .666" CENTERS SET AT 70° AND OVERLAPPED TO PROVIDE A MINIMUM LIGHT TRANSMISSION.
3. DEFLECTOR BLADES SHALL BE FIXED. UNITS SHALL BE DESIGNED TO INTEGRATE INTO A WALL OR DOOR APPLICATION.
4. THE MANUFACTURER SHALL PROVIDE PUBLISHED PERFORMANCE DATA. DATA SHALL BE TESTED IN ACCORDANCE TO ANSI/ASHRAE STANDARD 70- 2006.

* FOR DOORS AT LEAST 36" WIDE. FOR DOORS NARROWER THAN 36" WIDE, USE 6X6 LOUVER AS A MINIMUM.

MISCELLANEOUS EQUIPMENT SCHEDULE

1. **MOTORIZED INTAKE CONTROL DAMPER:** SHALL BE GREENHECK MODEL VCD-33 24"x18" WITH EFB120 DAMPER ACTUATORS(QTY. 2). CONTRACTOR SHALL FURNISH DAMPER ACTUATOR WITH AUXILIARY SWITCH. CONTRACTOR SHALL FIELD VERIFY DIMENSIONS PRIOR TO WORK. CONTRACTOR IS TOTALLY RESPONSIBLE FOR ALL COSTS NECESSITATED BY INSTALLATION, ELECTRICAL CHANGES, PHYSICAL ALTERATIONS AND ANY OTHER DETAILS REQUIRED FOR PROPER OPERATION OF ANY SUBSTITUTE PRODUCT BID.
2. **INTAKE LOUVER:** LOUVER SHALL BE RUSKIN MODEL ELF6350DMP EXTRUDED 6063T6 ALUMINUM ALLOY CONSTRUCTION; SIZED AS SHOWN ON PLAN.
3. **GRAVITY RELIEF VENTILATOR:** GRAVITY RELIEF VENTILATOR SHALL BE COOK MODEL GR HEAVY GAUGE ALUMINUM CONSTRUCTION WITH BIRDSCREEN, RADIUS THROAT, RAIN GUTTER, WELDED CURB CAP CORNERS, INTEGRAL LIFTING LUGS/TIE DOWN POINTS, HINGED HOOD, 5 YEAR WARRANTY.
4. **BAROMETRIC RELIEF DAMPER:** DAMPER SHALL BE UNITED ENERTECH MODEL CB-600 BACKDRAFT DAMPER OR APPROVED EQUAL. THICK EXTRUDED ALUMINUM CONSTRUCTION .060" FRAME, .045" BLADES, WITH VINYL SEAL, .625" x.125" ALUMINUM BAR LINKAGE IN AIRSTREAM; RATED FOR 3" W.G., 2800 FPM AND 200°F. PROVIDE COUNTERBALANCING WEIGHTS ASSIST TO CLOSE AND BALANCE TO RELIEVE AIR AT +.3"W.C. STATIC PRESSURE. ARRANGEMENT SHAL LBE HORIZONTAL UPFLOW WITH NO FLANGE AND SHALL BE ACCESSIBLE FOR INSTALL AND ADJUSTMENTS FROM ROOF.
5. **HUMIDIFIER:** CONTRACTOR SHALL PROVIDE NEW APRILAIRE MODEL 800 STEAM HUMIDIFIER OR EQUAL. UNIT SHALL PROVIDE BETWEEN 11.5 AND 34.6 GPD. UNIT SHALL BE 208V, 16AMPS, 3.3KW.
6. **FIRE DAMPERS:** RECTANGULAR FIRE DAMPES SHALL BE RUSKIN MODEL DIBD2 STYLE B (OR APPROVED EQUAL), OUT OF THE AIR STREAM TYPE, HORIZONTAL INSTALLATION, 1-1/2" HOUR FIRE RATED UNDER UL STANDARD 555, BEAR A UL LABEL AND SHALL MEET THE REQUIREMENTS OF THE LATEST EDITION OF NFPA 90A. PROVIDE S-AND-DRIVEMATE BREAKAWAY CONNECTION OPTION. REFER TO DRAWINGS FOR SIZE AND LOCATION.

IN CHARGE OF JAI PUNNOOSE, P.E.
CHECKED BY
MADE BY VINCENT LEONE, P.E.

WESTCHESTER COUNTY, NEW YORK
DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION
DIVISION OF ENGINEERING

CONTRACT NUMBER 22-524 | SHEET NUMBER HV-7
SHEET NO. 14 OF 21

REPLACEMENT OF HVAC SYSTEMS AND ASSOCIATED WORK
BEE-LINE CENTRAL MAINTENANCE FACILITY (DOT-CMF)
475 SAW MILL RIVER ROAD, YONKERS, NEW YORK
SCHEDULES

SCALE: AS SHOWN
DATE: 12/1/2023
DPW FILE NO. 61-10-HV-418 | REV. NO. 0

CONTROLS NOTES:

1. EXISTING COUNTY WIDE BUILDING MANAGEMENT SYSTEM IS CONTROLLED BY EXISTING ANDOVER CONTROLS SOFTWARE, CONTINUUM LAN VERSION 1.9. ALL NEW EQUIPMENT SHALL BE COMPATIBLE FOR TIE–IN WITH THE EXISTING ANDOVER BUILDING MANAGEMENT SYSTEM.

2. FIELD DEVICES AND I/O BOARDS: CONTRACTOR SHALL PROVIDE NEW ANDOVER CONTROL BOARDS AS SHOWN ON THE CONTRACT DRAWINGS. CONTRACTOR SHALL TIE–IN EXISTING FIELD DEVICES FROM EXISTING ROOFTOP UNITS AND THE NEW FIELD DEVICES TO NEW ANDOVER CONTROL BOARDS. CONTRACTOR SHALL FURNISH AND INSTALL NEW I/O BOARDS AS NEEDED. I/O BOARDS ARE NOT SHOWN ON THE CONTRACT DRAWINGS. EACH NEW I/O BOARD FURNISHED SHALL HAVE A MINIMUM OF 8 INPUTS OR 8 OUTPUTS TIE–IN CAPABILITY.

3. CONDUIT OR EMT: ALL INDOOR AND OUTDOOR EXPOSED ELECTRICAL/CONTROLS/COMMUNICATIONS WIRING SHALL BE INSTALLED IN CONDUIT. ALL INDOOR TYPE SHALL BE EMT WITH STEEL COMPRESSION FITTINGS. ALL OUTDOOR TYPE SHALL BE GALVANIZED STEEL CONDUIT. CONDUIT SHALL BE MINIMUM $\frac{3}{4}$ INCH. CONDUIT PENETRATIONS SHALL BE PROPERLY SEALED TO MEET ORIGINAL CONSTRUCTION CONDITIONS. CONTRACTOR RESPONSIBLE FOR CONDUIT. CONTRACTOR SHALL ROUTE NEW EXPOSED CONDUITS TIGHT TO THE WALLS AROUND THE PERIMETER OR TO THE CORNERS. CONTRACTOR RESPONSIBLE FOR DETERMINING THE ACTUAL ROUTING BASED ON FIELD VERIFICATION.

4. WIRING: CONTRACTOR SHALL PROVIDE NEW CONTROLS/COMMUNICATIONS/ELECTRICAL WIRING AS NEEDED. ALL CONTROLS/COMMUNICATIONS/SIGNAL WIRING RUN ABOVE DROP CEILINGS SHALL BE PLENUM RATED. ELECTRICAL POWER WIRING SHALL MEET NATIONAL ELECTRIC CODE REQUIREMENTS.

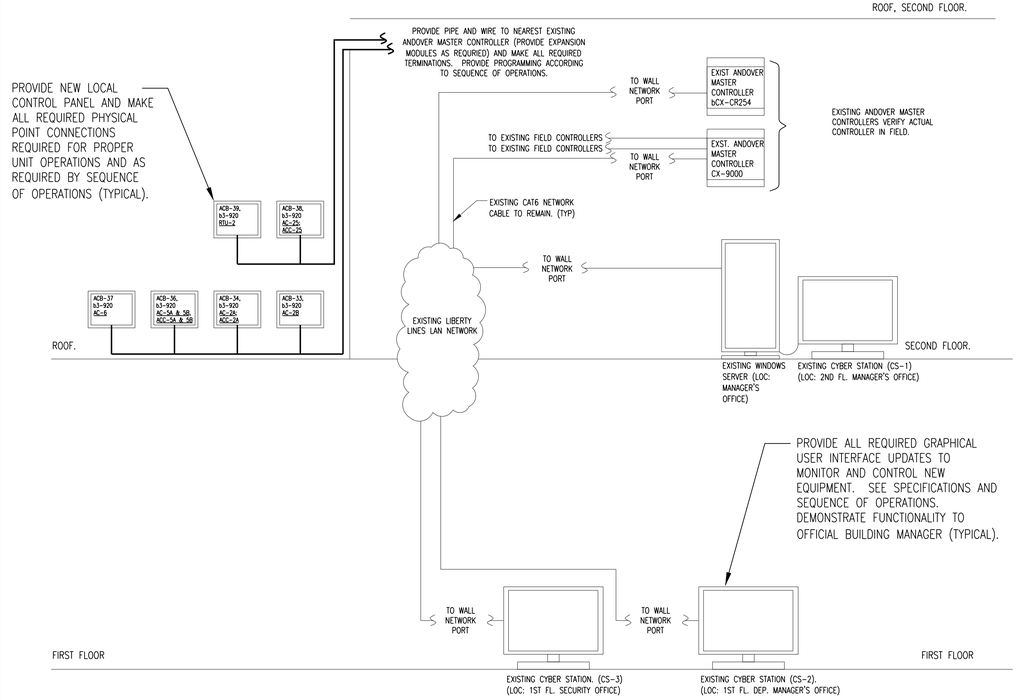
5. CONTROL BOARD ENCLOSURES: NEW ANDOVER CONTROL BOARDS AT THE RTU'S SHALL BE MOUNTED INSIDE NEMA 4X ENCLOSURE. CONTRACTOR SHALL FURNISH AND INSTALL THE NEW ENCLOSURES. CONTRACTOR RESPONSIBLE FOR PROPERLY SIZING THE ENCLOSURES. CONTRACTOR SHALL SIZE ENCLOSURES TO ALLOW ENOUGH SPACE FOR MOUNTING THE TRANSFORMERS, RELAYS, I/O BOARDS, SUPPORT EQUIPMENT, ETC,. ENCLOSURES SHALL BE SIZED 30% MORE THAN THE ACTUAL SIZES NEEDED, TO ALLOW FOR FUTURE EXPANSION.

6. SOFTWARE INTEGRATION: CONTRACTOR IS RESPONSIBLE FOR PROGRAMMING, GRAPHICS, ALARMING, SCHEDULING, AND TIE–IN OF FIELD DEVICES AT THE NEW EQUIPMENT TO NEW ANDOVER CONTROL BOARDS.

7. POWER SUPPLY: THE POWER SUPPLY TO EACH NEW ANDOVER CONTROL BOARDS IS NOT SHOWN ON DRAWINGS. NEW ANDOVER CONTROL BOARDS SHALL BE POWERED BY EXTENDING THE EXISTING POWER SUPPLY WIRING OR INSTALLING NEW POWER SUPPLY WIRING. IF NEEDED, CONTRACTOR SHALL RUN NEW POWER SUPPLY WIRING FROM THE SAME POWER PANEL, THAT SUPPLIED EXISTING. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF EXISTING POWER/CONTROLS/COMMUNICATIONS WIRING.

8. CUSTOM LOGS AND REPORTS: THE CONTROLS CONTRACTOR SHALL CREATE CUSTOM LOGS FOR CFM'S, EQUIPMENT STATUS, STATIC PRESSURES, TEMPERATURES, CO LEVELS AND NO2 LEVELS FOR ALL CONTROL ZONES. CUSTOM LOGS SHALL SHOW MAXIMUM, MINIMUM AND AVERAGE VALUES OF EACH CONTROL POINT ON AN HOURLY BASIS. LOGS SHALL BE STORED ON LOCAL CONTROL BOARDS FOR A MINIMUM OF ONE MONTH.

9. CUSTOM REPORTS: CONTRACTOR SHALL PROGRAM CUSTOM REPORTS ON BMS. CUSTOM REPORTS SHALL SHOW HOURLY DATA ON CONTROL POINTS FOR THE LAST 24 HOURS OR SHALL HAVE AN OPTION TO CHOOSE ANY 24–HOUR PERIOD IN THE LAST 30 DAYS. CUSTOM REPORTS SHALL BE SENT FOR STORAGE ON THE HARD DRIVE AUTOMATICALLY (WITHOUT USER INPUT) DAILY. CUSTOM REPORTS SHALL BE PRINTABLE. CONTRACTOR SHALL COORDINATE WITH DPW&T ENGINEERING AND FACILITIES MANAGER TO FINALIZE CONTROL POINTS AND FORMATS FOR EACH CUSTOM REPORT.



1 HV–8 SCHEMATIC NEW CONTROL SYSTEM ARCHITECTURE
NOT TO SCALE

SEQUENCE OF OPERATION – CLEANERS LOUNGE (DWG. HV–3)

VAV SYSTEMS WITH REHEAT VAV TERMINALS (AC–678 REPLACEMENT PACKAGED ROOFTOP UNIT)

1. OCCUPIED PERIOD OPERATION
 1.1. THE SUPPLY FAN RUNS CONTINUOUSLY TO SUPPLY A VARIABLE VOLUME OF SUPPLY AIR TO EACH ZONE.
 1.2. SUPPLY AIR TEMPERATURE IS CONTROLLED ACCORDING TO USER SPECIFICATIONS.
 1.3. ZONE THERMOSTAT CALLS FOR COOLING
 1.4. THE TERMINAL DAMPER REGULATES THE FLOW OF AIR INTO THE ZONE TO MAINTAIN COMFORT CONDITIONS.
 1.5. ZONE THERMOSTAT CALLS FOR HEATING
 1.6. THE TERMINAL DAMPER CLOSES TO THE MINIMUM AIRFLOW POSITION. THE TERMINAL REHEAT COIL OPERATES TO MAINTAIN COMFORT CONDITIONS IN THE ZONE. IF A ZONE HEATING UNIT WITH ROOM THERMOSTAT CONTROL IS USED, IT SERVES AS A SECOND STAGE OF HEAT AND IS ONLY USED IF THE TERMINAL REHEAT COIL CANNOT MAINTAIN ZONE CONDITIONS.
 1.7. ZONE THERMOSTAT DOES NOT CALL FOR COOLING OR HEATING
 1.8. THE TERMINAL DAMPER CLOSES TO ITS MINIMUM FLOW POSITION. THE ZONE TEMPERATURE FLOATS.
2. UNOCCUPIED PERIOD OPERATION.
 2.1. SUPPLY FAN
  2.1.1. CYCLES ON WHEN ONE OR MORE ZONES CALL FOR COOLING.
  2.1.2. CYCLES ON WHEN ONE OR MORE ZONES CALL FOR HEATING AND THESE ZONES CANNOT MEET THE HEATING DEMAND INDEPENDENTLY. SEE DISCUSSION IN ITEMS 4 BELOW.
  2.1.3. IF NO ZONES CALL FOR COOLING OR HEATING, THE SUPPLY FAN IS OFF.
 2.2. SUPPLY AIR TEMPERATURE
  2.2.1. WHEN THE SUPPLY FAN IS OPERATING, SUPPLY AIR TEMPERATURE IS CONTROLLED ACCORDING TO USER SPECIFICATIONS.
 2.3. ZONE THERMOSTAT CALLS FOR COOLING
  2.3.1. OPERATION IS THE SAME AS IN THE OCCUPIED PERIOD.
 2.4. ZONE THERMOSTAT CALLS FOR HEATING
  2.4.1. FOR ZONES WHICH CONTAIN A ZONE HEATING UNIT WITH ROOM THERMOSTAT CONTROL, THE ZONE HEATING UNIT OPERATES TO MAINTAIN ZONE CONDITIONS.
  2.4.2. IF ZONES EXIST WHICH DO NOT CONTAIN A ZONE HEATING UNIT WITH ROOM THERMOSTAT CONTROL, THE CENTRAL SUPPLY FAN REMAINS OFF. THE ZONE TEMPERATURE FLOATS AND THE HEATING DEMAND CANNOT BE MET. THE CENTRAL SUPPLY FAN MUST RUN TO ALLOW THE TERMINAL REHEAT COIL TO OPERATE. OPERATION IN THIS MODE IS THE SAME AS IN THE OCCUPIED PERIOD.
 2.5. ZONE THERMOSTATS DO NOT CALL FOR COOLING OR HEATING
  2.5.1. THE SYSTEM AND ALL TERMINAL EQUIPMENT ARE OFF.

SEQUENCE OF OPERATION – OFFICE AREA (DWG. HV–2)

SINGLE ZONE CAV SYSTEM (AC–2A)
OCCUPIED PERIOD OPERATION
1. ZONE THERMOSTAT CALLS FOR COOLING
 1.1. THE SUPPLY FAN RUNS CONTINUOUSLY. THE COOLING COIL AND THE SUPPLY TEMPERATURE ARE CONTROLLED ACCORDING TO USER SPECIFICATIONS.
2. ZONE THERMOSTAT CALLS FOR HEATING
 2.1. THE SUPPLY FAN RUNS CONTINUOUSLY. THE HEATING COIL AND THE SUPPLY TEMPERATURE ARE CONTROLLED ACCORDING TO USER SPECIFICATIONS.
 2.2. IF A ZONE HEATING UNIT USING ROOM THERMOSTAT CONTROL EXISTS, IT ACTS AS A SECOND STAGE OF HEAT FOR THE ZONE AND IS ONLY USED IF CENTRAL HEAT IS INSUFFICIENT TO MEET THE HEATING DEMAND.
3. ZONE THERMOSTAT DOES NOT CALL FOR COOLING OR HEATING
 3.1. THE SUPPLY FAN RUNS CONTINUOUSLY AND PROVIDES UNCONDITIONED AIR TO THE ZONE. THE COOLING AND HEATING COILS ARE OFF.

ECONOMIZER MODE – WHEN RETURN ENTHALPY EXCEEDS OUTDOOR ENTHALPY, IN COOLING MODE, AND WHEN OUTDOOR ENTHALPY EXCEEDS RETURN, IN HEATING, RETURN DAMPERS FULL CLOSED, OUTDOOR AND EXHAUST AIR FULL OPEN. DX CIRCUIT AND SUPPLEMENTAL GAS HEAT MODULATES TO MAINTAIN SETPOINT TEMPERATURE AND HUMIDITY. HOT GAS REHEAT MODULATES TO PREVENT OVERCOOLING OF SPACE.
DEFROST (WINTER ONLY) – REVERSING VALVE ENERGIZES TO COOLING MODE TO DEFROST OUTDOOR COIL. BACKUP HEATING MODULATES TO MAINTAIN DISCHARGE TEMPERATURE TO PROVIDE HEAT TO SPACE.
SMOKE DAMPER – HARD WIRE INTERLOCKED WITH STARTER CIRCUIT. BMS TO MONITOR STATUS ONLY.

UNOCCUPIED PERIOD OPERATION
1. ZONE THERMOSTAT CALLS FOR COOLING
 1.1. THE SUPPLY FAN AND COOLING COIL CYCLE ON TO MEET THE COOLING DEMAND. AIR AT THE DESIGN COOLING SUPPLY TEMPERATURE IS PROVIDED.
2. ZONE THERMOSTAT CALLS FOR HEATING
 2.1. THE SUPPLY FAN AND HEATING COIL CYCLE ON TO MEET THE HEATING DEMAND. AIR AT THE DESIGN HEATING SUPPLY TEMPERATURE IS PROVIDED.
3. ZONE THERMOSTAT DOES NOT CALL FOR COOLING OR HEATING
 3.1. THE SUPPLY FAN IS OFF.

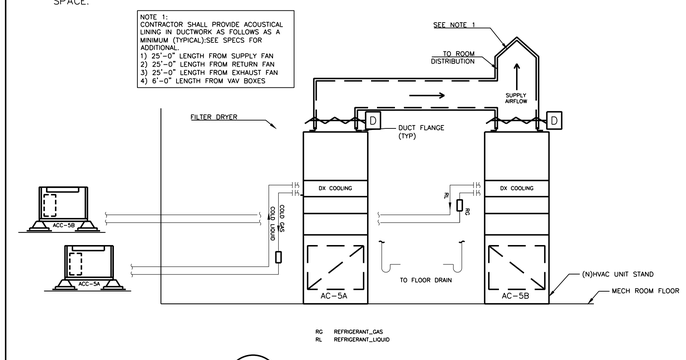
CAV MAKEUP AIR UNIT/DOAS WITH COOLING/HEATING AND HUMID/DEHUMID. CONTROL (AC–2B)
1. OCCUPIED PERIOD OPERATION
 1.1. THE SUPPLY FAN RUNS CONTINUOUSLY TO SUPPLY 100% OUTSIDE AIR.
 1.2. THE COOLING COIL SHALL OPERATE WHENEVER THE DUCT TEMPERATURE DOWNSTREAM OF THE UNIT IS ABOVE THE DUCT COOLING SET POINT. THE AIR SHALL BE COOLED SO THE DUCT TEMPERATURE IS HELD AT THE SET POINT.
 1.3. THE UNIT SHALL CONTROL BOTH DRY–BULB TEMPERATURE AND RELATIVE HUMIDITY (RH) DOWNSTREAM OF THE UNIT. IF THE TEMPERATURE OF DUCT AIR DOWNSTREAM OF THE UNIT IS ABOVE THE DUCT COOLING SET POINT, THE COOLING COIL SHALL BE ENERGIZED TO HOLD THE DUCT AIR AT THE SET POINT. IF THE DUCT HUMIDITY IS ABOVE THE RH SET POINT, THE COOLING COIL SHALL PROVIDE ADDITIONAL COOLING TO LOWER THE COIL DEW POINT, THUS CONDENSING MORE MOISTURE, AND HOLDING THE DUCT AIR AT THE DEHUMIDIFICATION SET POINT. A HEATING COIL SHALL PROVIDE REHEAT SO THE DUCT AIR TEMPERATURE CONTINUES TO BE HELD AT DUCT COOLING SET POINT.
 1.4. THE HEATING COIL SHALL OPERATE WHENEVER THE DUCT TEMPERATURE DOWNSTREAM OF THE UNIT IS BELOW THE DUCT HEATING SET POINT. THE AIR SHALL BE HEATED SO THE DUCT TEMPERATURE IS HELD AT THE SET POINT.
 1.5. THE UNIT SHALL CONTROL BOTH DRY–BULB TEMPERATURE AND RELATIVE HUMIDITY (RH) DOWNSTREAM OF THE UNIT. IF THE TEMPERATURE OF DUCT AIR DOWNSTREAM OF THE UNIT IS BELOW THE DUCT HEATING SET POINT, THE HEATING COIL SHALL BE ENERGIZED TO HOLD THE DUCT AIR AT THE SET POINT. IF THE DUCT HUMIDITY IS BELOW THE RH SET POINT, THE HUMIDIFIER SHALL ADD MOISTURE TO THE AIR STREAM TO HOLD THE DUCT HUMIDITY AT THE SET POINT.
 1.6. HUMIDIFICATION: WHEN THE HUMIDIFIER CONTROL DETECTS THE NEED FOR HUMIDITY, AND PROVIDED THE HUMIDIFIER IS TURNED ON AND THE HVAC SYSTEM BLOWER IS OPERATING, THE INTERNAL CONTROLLER IN THE HUMIDIFIER ENERGIZES THE ELECTRODES AND MEASURES THE CURRENT FLOWING THROUGH THE WATER BETWEEN THEM. THE CONTROLLER ADJUSTS WATER LEVEL IN THE CANISTER VIA A FILL VALVE AND A DRAIN VALVE TO MAINTAIN A CONSTANT CURRENT. THE OPERATING WATER LEVEL IN THE CANISTER DEPENDS ON THE MINERAL CONTENT OF THE WATER WHICH DETERMINES CONDUCTIVITY.

2. UNOCCUPIED PERIOD OPERATION
 2.1. THE SYSTEM IS OFF DURING THE UNOCCUPIED PERIOD.

SEQUENCE OF OPERATION – COMPUTER ROOM (HV–3)

CAV SINGLE ZONE SYSTEM (AC–5)
CENTRAL AIR HANDLER PROVIDES A CONSTANT VOLUME OF CONDITIONED AIR TO THE ZONE TERMINAL.
1. OCCUPIED PERIOD OPERATION
 1.1. ZONE THERMOSTAT CALLS FOR COOLING
  1.1.1. THE SUPPLY FAN AND COOLING COIL CYCLE ON ONLY WHEN A COOLING DEMAND EXISTS. AIR IS SUPPLIED TO THE ZONE AT THE DESIGN COOLING SUPPLY TEMPERATURE.
 1.2. ZONE THERMOSTAT CALLS FOR HEATING
  1.2.1. THE SUPPLY FAN AND HEATING COIL CYCLE ON ONLY WHEN A HEATING DEMAND EXISTS. AIR IS SUPPLIED TO THE ZONE AT THE DESIGN HEATING SUPPLY TEMPERATURE.
 1.3. ZONE THERMOSTAT DOES NOT CALL FOR COOLING OR HEATING
  1.3.1. THE SUPPLY FAN IS OFF WHEN NO CALLS FOR COOLING OR HEATING EXIST.
  1.3.2. OTHERWISE, THE SUPPLY FAN RUNS CONTINUOUSLY AND PROVIDES UNCONDITIONED AIR TO THE ZONE. THE COOLING AND HEATING COILS ARE OFF.
2. UNOCCUPIED PERIOD OPERATION
 2.1. ZONE THERMOSTAT CALLS FOR COOLING
  2.1.1. THE SUPPLY FAN AND COOLING COIL CYCLE ON TO MEET THE COOLING DEMAND. AIR AT THE DESIGN COOLING SUPPLY TEMPERATURE IS PROVIDED.
 2.2. ZONE THERMOSTAT CALLS FOR HEATING
  2.2.1. THE SUPPLY FAN AND HEATING COIL CYCLE ON TO MEET THE HEATING DEMAND. AIR AT THE DESIGN HEATING SUPPLY TEMPERATURE IS PROVIDED.
 2.3. ZONE THERMOSTAT DOES NOT CALL FOR COOLING OR HEATING
  2.3.1. THE SUPPLY FAN IS OFF.

DEFROST (WINTER ONLY)
- REVERSING VALVE ENERGIZES TO COOLING MODE TO DEFROST OUTDOOR COIL. BACKUP HEATING MODULATES TO MAINTAIN DISCHARGE TEMPERATURE TO PROVIDE HEAT TO SPACE.



2 HV–8 NEW CRAC UNIT SCHEMATIC
NOT TO SCALE

SEQUENCE OF OPERATION – NEW RADIO EQUIPMENT ROOM (HV–4)

CAV SINGLE ZONE SYSTEM (RTU–2 & AC–25)
INDOOR UNIT PROVIDES A CONSTANT VOLUME OF CONDITIONED AIR TO THE ZONE TERMINAL.
1. OCCUPIED PERIOD OPERATION
 1.1. ZONE THERMOSTAT CALLS FOR COOLING
  1.1.1. THE SUPPLY FAN AND COOLING COIL CYCLE ON ONLY WHEN A COOLING DEMAND EXISTS. AIR IS SUPPLIED TO THE ZONE AT THE DESIGN COOLING SUPPLY TEMPERATURE.
 1.2. ZONE THERMOSTAT CALLS FOR HEATING
  1.2.1. THE SUPPLY FAN AND HEATING COIL CYCLE ON ONLY WHEN A HEATING DEMAND EXISTS. AIR IS SUPPLIED TO THE ZONE AT THE DESIGN HEATING SUPPLY TEMPERATURE.
 1.3. ZONE THERMOSTAT DOES NOT CALL FOR COOLING OR HEATING
  1.3.1. THE SUPPLY FAN IS OFF WHEN NO CALLS FOR COOLING OR HEATING EXIST.
  1.3.2. OTHERWISE, THE SUPPLY FAN RUNS CONTINUOUSLY AND PROVIDES UNCONDITIONED AIR TO THE ZONE. THE COOLING AND HEATING COILS ARE OFF.
2. UNOCCUPIED PERIOD OPERATION
 2.1. ZONE THERMOSTAT CALLS FOR COOLING
  2.1.1. THE SUPPLY FAN AND COOLING COIL CYCLE ON TO MEET THE COOLING DEMAND. AIR AT THE DESIGN COOLING SUPPLY TEMPERATURE IS PROVIDED.
 2.2. ZONE THERMOSTAT CALLS FOR HEATING
  2.2.1. THE SUPPLY FAN AND HEATING COIL CYCLE ON TO MEET THE HEATING DEMAND. AIR AT THE DESIGN HEATING SUPPLY TEMPERATURE IS PROVIDED.
 2.3. ZONE THERMOSTAT DOES NOT CALL FOR COOLING OR HEATING
  2.3.1. THE SUPPLY FAN IS OFF.

REVISION NUMBER	DATE	MADE BY	APP'D BY	REVISION

RECORD DRAWING CERTIFICATION
☐ AS BUILT – CHANGES AS NOTED
☐ AS BUILT – NO CHANGES

CONTRACTOR
NAME
SIGNATURE
TITLE DATE

PROJECT COORDINATOR
NAME
SIGNATURE
TITLE DATE

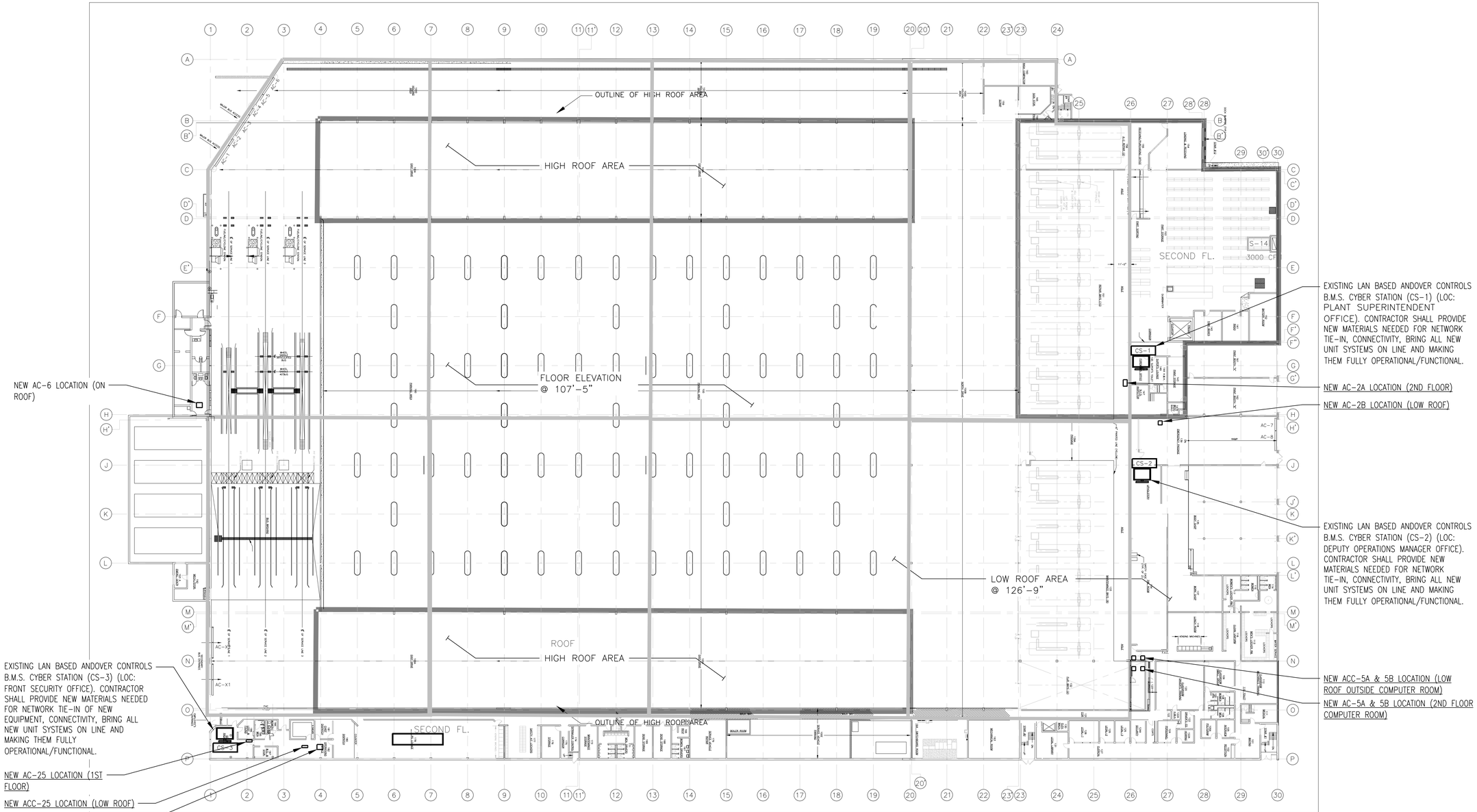
IN CHARGE OF JAI PUNNOOSE, P.E.
CHECKED BY
MADE BY VINCENT LEONE, P.E.

WESTCHESTER COUNTY, NEW YORK
DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION
DIVISION OF ENGINEERING

REPLACEMENT OF HVAC SYSTEMS AND ASSOCIATED WORK
BEE–LINE CENTRAL MAINTENANCE FACILITY (DOT–CMF)
475 SAW MILL RIVER ROAD, YONKERS, NEW YORK
CONTROL SYSTEM ARCHITECTURE AND NOTES

CONTRACT NUMBER	SHEET NUMBER
22–524	HV–8

SHEET NO. 15 OF 21
SCALE: AS SHOWN
DATE: 12/1/2023
DPW FILE NO. 61–10–HV–419
REV. NO. 0

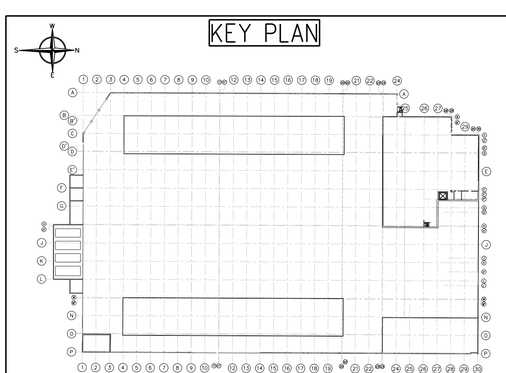


3 / HV-9 FIRST FLOOR B.M.S. NEW CONTROL BOARDS LAYOUT PLAN
SCALE: 1/32"=1'-0"

NEW CONTROL BOARDS INSTALLATION NOTES:

1. SIZES SHOWN FOR NEW CONTROL BOARDS AND NEW CYBER STATIONS ON PLAN ARE NOT TO SCALE. ACTUAL SIZES VARY.
2. CONTRACTOR SHALL PROVIDE NEW NEMA 4X RATED STAINLESS STEEL ENCLOSURES TO MOUNT NEW CONTROL BOARDS AS DIRECTED BY THE CONSTRUCTION MANAGER. NEW ENCLOSURES SHALL BE SIZED TO INCLUDE I/O BOARDS (NOT SHOWN ON DRAWINGS) AND WITH 20% ADDITIONAL MOUNTING SPACE FOR FUTURE EXPANSION.

KEY PLAN



REVISION NUMBER	DATE	MADE BY	APP'D BY	REVISION

RECORD DRAWING CERTIFICATION

☐ AS BUILT – CHANGES AS NOTED
☐ AS BUILT – NO CHANGES

CONTRACTOR
NAME
SIGNATURE
TITLE DATE

PROJECT COORDINATOR
NAME
SIGNATURE
TITLE DATE

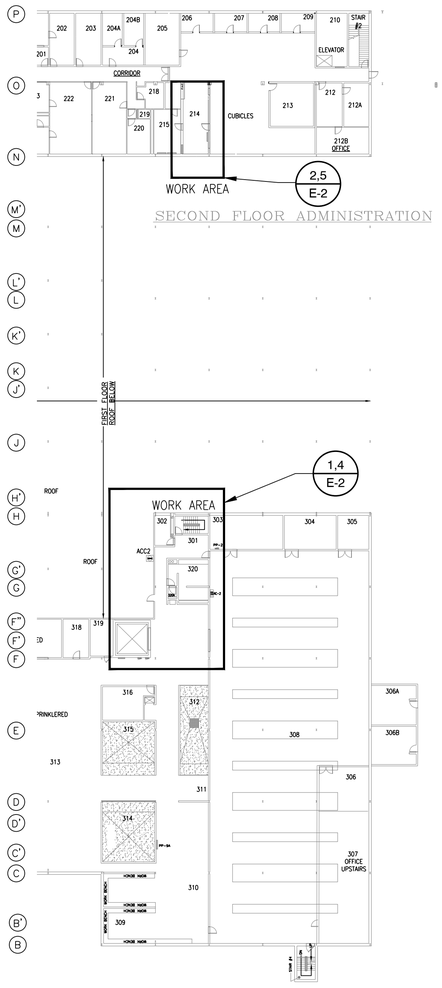
WESTCHESTER COUNTY, NEW YORK
DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION
DIVISION OF ENGINEERING

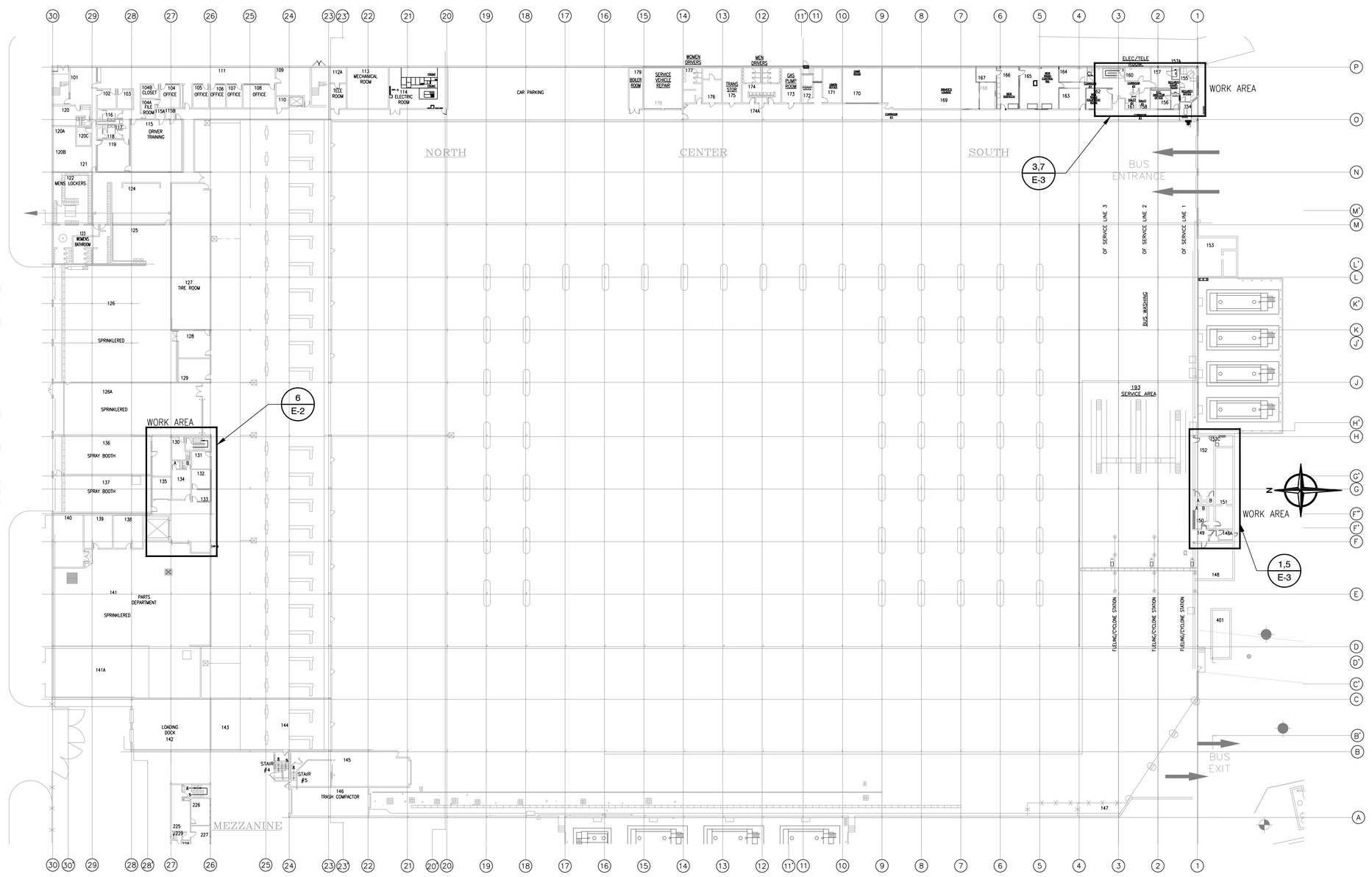
CONTRACT NUMBER 22-524
SHEET NUMBER HV-9
SHEET NO. 16 OF 21

REPLACEMENT OF HVAC SYSTEMS AND ASSOCIATED WORK
BEE-LINE CENTRAL MAINTENANCE FACILITY (DOT-CMF)
475 SAW MILL RIVER ROAD, YONKERS, NEW YORK
CONTROLS PLAN

SCALE: N.T.S.
DATE: 12/1/2023
DPW FILE NO. 61-10-HV-420
REV. NO. 0

IN CHARGE OF JAI PUNNOOSE, P.E.
CHECKED BY
MADE BY VINCENT LEONE, P.E.





1 / E-1 HVAC WORK LOCATIONS

SCALE: 1/32"=1'-0"

REVISION NUMBER	DATE	MADE BY	APP'D BY	REVISION

RECORD DRAWING CERTIFICATION

☐ AS BUILT – CHANGES AS NOTED
☐ AS BUILT – NO CHANGES

CONTRACTOR	PROJECT COORDINATOR
NAME	NAME
SIGNATURE	SIGNATURE
TITLE DATE	TITLE DATE

WESTCHESTER COUNTY, NEW YORK
DEPARTMENT OF PUBLIC WORKS
DIVISION OF ENGINEERING

CONTRACT NUMBER	SHEET NUMBER
E-1	22-524

SHEET NO. 17 OF 21

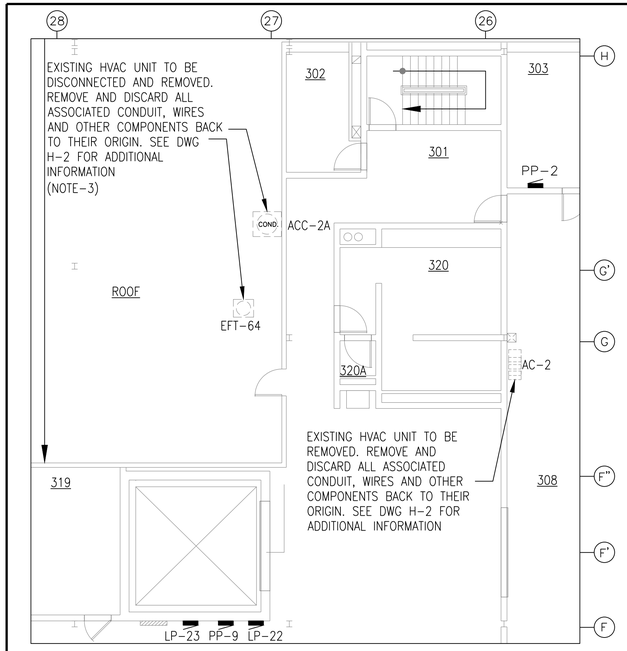
SCALE: AS SHOWN
DATE: 12/01/23

REPLACEMENT OF HVAC SYSTEMS AND ASSOCIATED WORK
BEE-LINE CENTRAL MAINTENANCE FACILITY (DOT-CMF)
475 SAW MILL RIVER ROAD, YONKERS, NEW YORK
LOCATIONS OF HVAC WORK

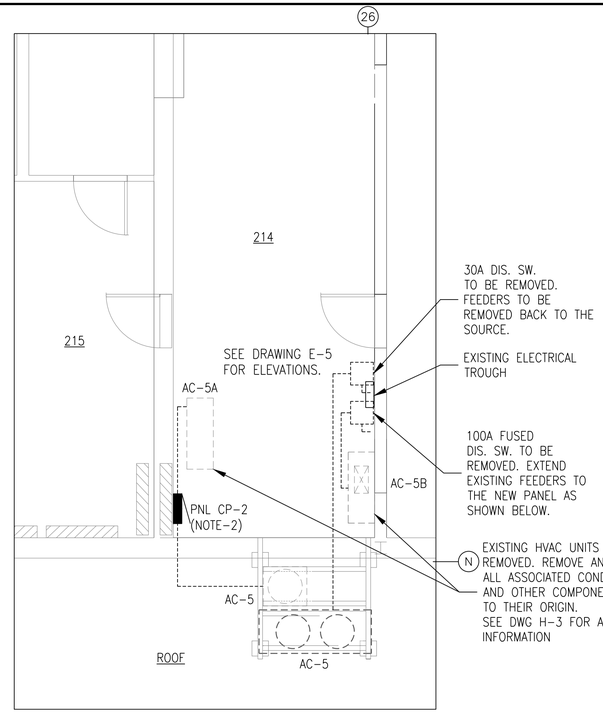
DPW FILE NO. 61-10-E-421

REV. NO. 0

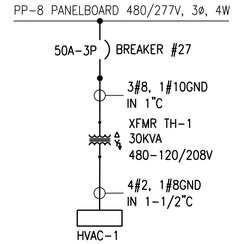
IN CHARGE OF GARRY LYNCH
CHECKED BY MICHAEL DEFONCE
MADE BY LIJU JOSEPH



1 E-2 **2ND FLOOR AC-2 - DEMO**
SCALE: 1/8"=1'-0" EXISTING



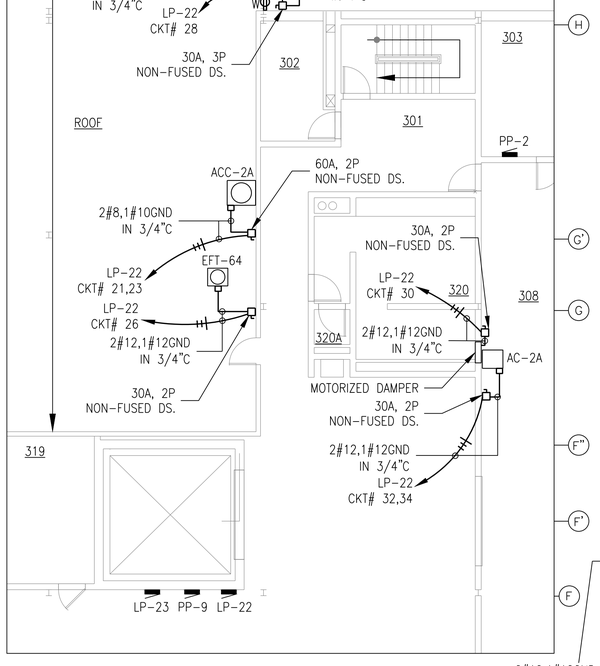
2 E-2 **2ND FLOOR AC-5 - DEMO**
SCALE: 1/4"=1'-0" EXISTING



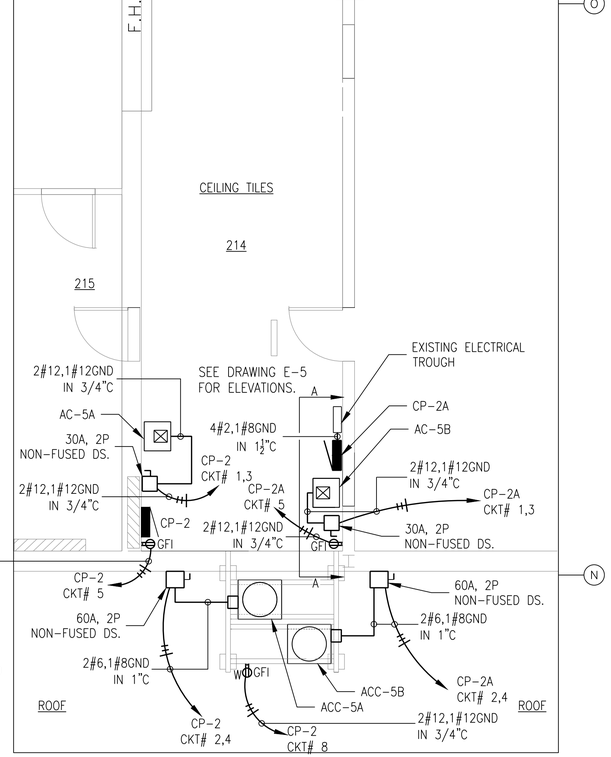
3 E-2 **PARTIAL SINGLE LINE**
SCALE: NOT TO SCALE

NOTES:

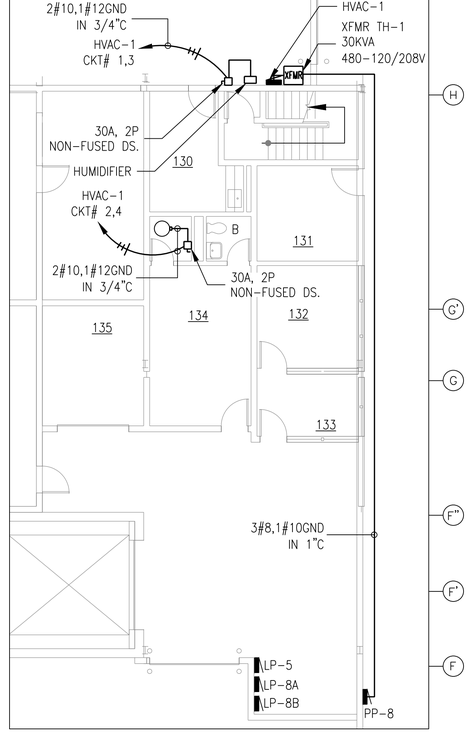
1. CONTRACTOR SHALL DISCONNECT AND REMOVE EXISTING DUCT DETECTORS FROM EXISTING AC-2 UNIT. CONTRACTOR SHALL DISCONNECT AND REMOVE EXISTING CONTROL RELAY WIRING FROM EXISTING AC-2 UNIT. CONTRACT SHALL FURNISH AND INSTALL NEW DUCT DETECTORS (EDWARDS: #SIGA-SD DETECTOR) AND CONTROL RELAYS (EDWARDS: #SIGA-CRH) ON NEW AC-2 UNIT. CONTRACTOR SHALL BE RESPONSIBLE FOR THE TESTING AND REPROGRAMMING OF THE EXISTING FIRE ALARM SYSTEM AFTER DUCT DETECTORS AND CONTROL RELAY ARE INSTALLED ON NEW AC-2 UNIT. THE CONTRACTOR SHALL COORDINATE ALL FIRE ALARM WORK WITH THE COUNTY WIDE FIRE ALARM SERVICE CONTRACTOR (ADT, NICK DELFICO, TEL. NO. 914-418-9445). THE CONTRACTOR SHALL INCLUDE ALL COSTS IN HIS BID.
2. DISCONNECT AND REMOVE THE EXISTING 40 AMP, 3 POLE BREAKER AND THE EXISTING 20 AMP, 3 POLE BREAKER IN PANEL CP-2 FEEDING EXISTING AC-5A AND ACC-5A.
3. DISCONNECT AND REMOVE THE EXISTING 30 AMP, 3 POLE BREAKER IN PANEL LP-22 FEEDING EXISTING ACC-2A.
4. DISCONNECT AND REMOVE THE EXISTING 20 AMP, 3 POLE BREAKER IN PANEL PP-9 FEEDING EXISTING AC-2.
5. CONTRACTOR SHALL FURNISH AND INSTALL CIRCUIT BREAKERS FOR NEW HVAC EQUIPMENT AS SHOWN ON THE PANEL SCHEDULES. SEE DRAWING E-4 FOR PANELBOARD SCHEDULES.
6. CONTRACTOR SHALL FURNISH AND INSTALL ALL BRANCH CIRCUITRY, FEEDERS, AND CONTROL WIRING FOR ALL HVAC EQUIPMENT AS SHOWN ON THE DRAWINGS.
7. ALL OUTDOOR DISCONNECT SWITCHES SHALL BE NEMA 4X, STAINLESS STEEL.
8. DISCONNECT SWITCHES FOR THE OUTDOOR UNITS MAY BE MOUNTED ON THE UNIT, WHERE THERE ARE NO WALLS NEARBY.
9. CONTROL WIRES BETWEEN INDOOR AND OUTDOOR UNITS SHALL BE SUPPLIED AND INSTALLED BY THE CONTRACTOR AS PER MANUFACTURER'S DIRECTIONS.
10. ALL EXTERIOR CONDUITS SHALL BE TYPE RGS. FOR INTERIOR, CONTRACTOR SHALL USE EMT CONDUIT IN ALL EXPOSED AREAS AND SURFACE MOUNT RACEWAY IN OFFICE AREAS. ALL WIRING AND CABLING SHALL BE INSTALLED CONCEALED ABOVE DROP CEILINGS AND/OR HOLLOW WALLS. 12/2 MC CABLE MINIMUM SHALL BE USED ABOVE ALL DROP CEILINGS.
11. CONTRACTOR SHALL PERFORM ALL WIRE AND CABLE TERMINATIONS.
12. ALL WORK SHALL COMPLY WITH 2020 NEC AND NFPA 72 CODES.
13. CONTRACTOR SHALL HAVE A THIRD PARTY INSPECTION FOR ALL WORK.
14. HVAC EQUIPMENT LOCATIONS SHOWN ARE APPROXIMATE. SEE MECHANICAL DRAWINGS FOR THE EXACT LOCATIONS OF THE EQUIPMENT.



4 E-2 **2ND FLOOR AC-2**
SCALE: 1/8"=1'-0"



5 E-2 **2ND FLOOR AC-5**
SCALE: 1/4"=1'-0"



6 E-2 **1ST FLOOR OFFICES**
SCALE: 1/8"=1'-0"

ABBREVIATIONS

DS.	DISCONNECT SWITCH
DWG	DRAWING
TYP	TYPICAL
U.O.N	UNLESS OTHERWISE NOTED
XFMR (XFMR)	TRANSFORMER

SYMBOLS LIST

	POWER PANEL SURFACE MOUNTED.
	BRANCH CIRCUITRY. # OF TICKS INDICATES # OF CONDUCTORS. #12 AWG MINIMUM, U.O.N.
	BRANCH CIRCUIT HOMERUN. #OF ARROW HEADS INDICATES # OF SEPARATE HOMERUNS. # OF TICKS INDICATES # OF CONDUCTORS. #12 AWG MINIMUM, U.O.N.
	EXISTING AC-2 MOTOR STARTER.
	HEAVY DUTY NON-FUSED DISCONNECT SWITCH. SQUARE D MODEL #HUXXX.
S	30AMP, 3 POLE DISCONNECT/TOGGLE SWITCH, MITSUBISHI TAZ-MS303.
GFI	GROUND FAULT CIRCUIT INTERRUPTER DUPLEX RECEPTACLE. 'W' INDICATES WITH WEATHERPROOF IN-SERVICE COVER. 120V, 20AMP.
	EXISTING.
	TO BE PROVIDED.

REVISION NUMBER	DATE	MADE BY	APP'D BY	REVISION

RECORD DRAWING CERTIFICATION

☐ AS BUILT - CHANGES AS NOTED
☐ AS BUILT - NO CHANGES

CONTRACTOR
NAME
SIGNATURE
TITLE DATE

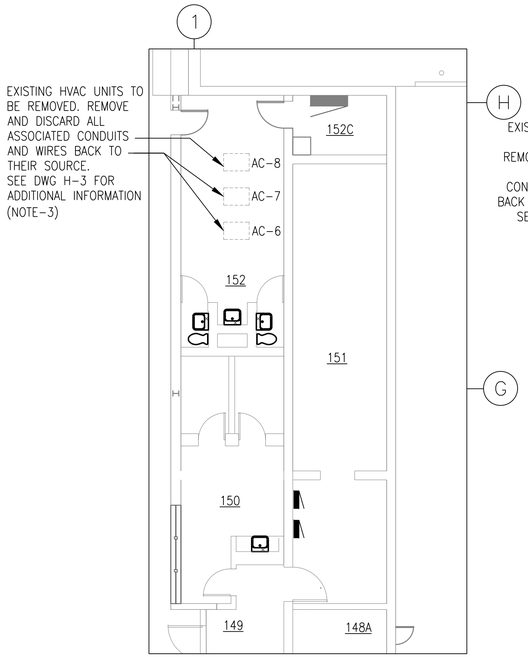
PROJECT COORDINATOR
NAME
SIGNATURE
TITLE DATE

IN CHARGE OF GARRY LYNCH
CHECKED BY MICHAEL DEFONCE
MADE BY LIJU JOSEPH

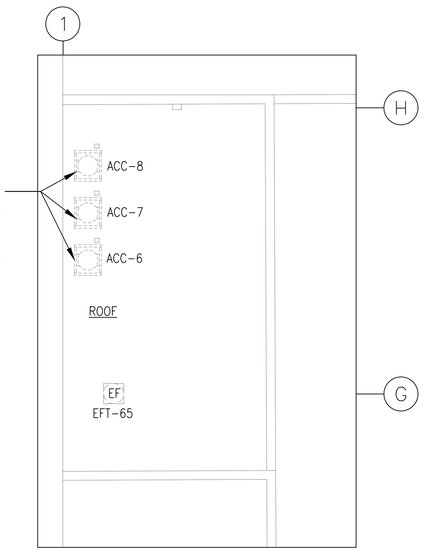
WESTCHESTER COUNTY, NEW YORK
DEPARTMENT OF PUBLIC WORKS
DIVISION OF ENGINEERING

REPLACEMENT OF HVAC SYSTEMS AND ASSOCIATED WORK
BEE-LINE CENTRAL MAINTENANCE FACILITY (DOT-CMF)
475 SAW MILL RIVER ROAD, YONKERS, NEW YORK
1ST FLOOR OFFICES AND 2ND FLOOR AC-2 & AC-5 PART PLANS

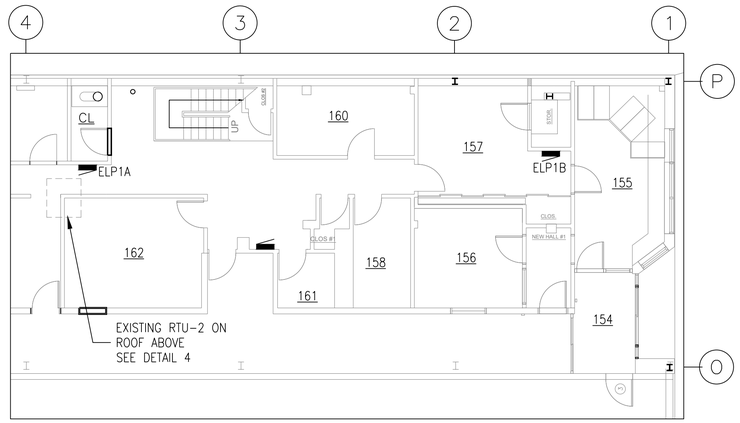
CONTRACT NUMBER	E-2
SHEET NUMBER	22-524
SHEET NO.	18 OF 21
SCALE:	AS SHOWN
DATE:	12/01/23
DPW FILE NO.	61-10-E-422
REV. NO.	0



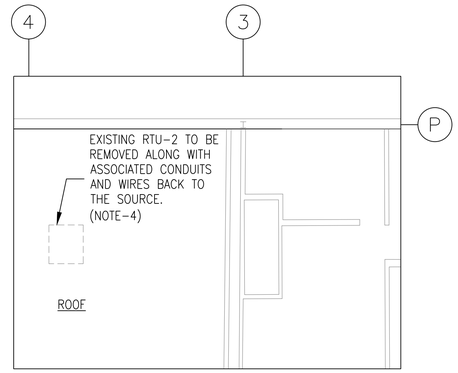
1 E-3 CLEANERS LOUNGE AC-6, 7 & 8 - DEMO
SCALE: 1/8"=1'-0" EXISTING



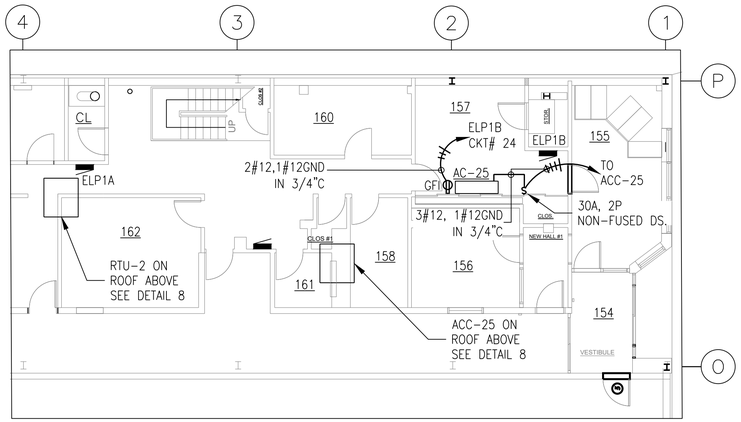
2 E-3 ROOF ACC-6, 7 & 8 - DEMO
SCALE: 1/8"=1'-0" EXISTING



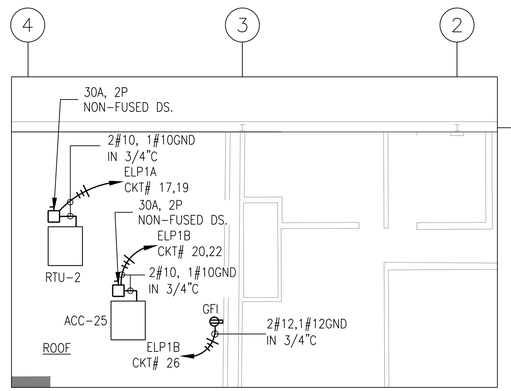
3 E-3 SERVER ROOM RTU-2 - DEMO
SCALE: 1/8"=1'-0" EXISTING



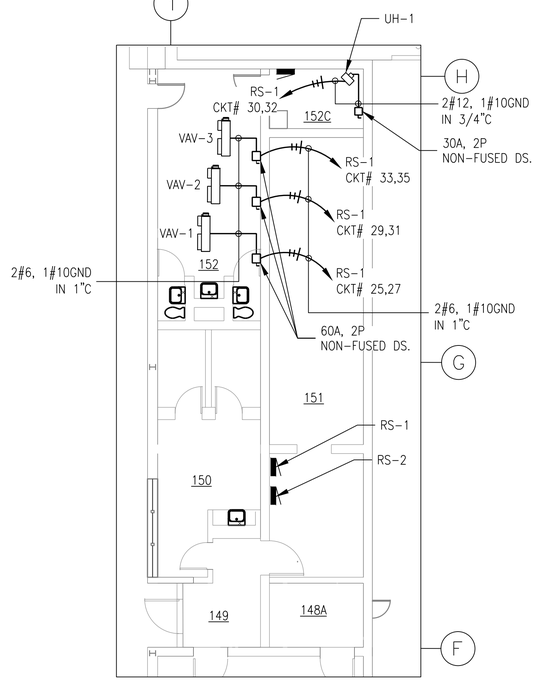
4 E-3 ROOF RTU-2 - DEMO
SCALE: 1/8"=1'-0" EXISTING



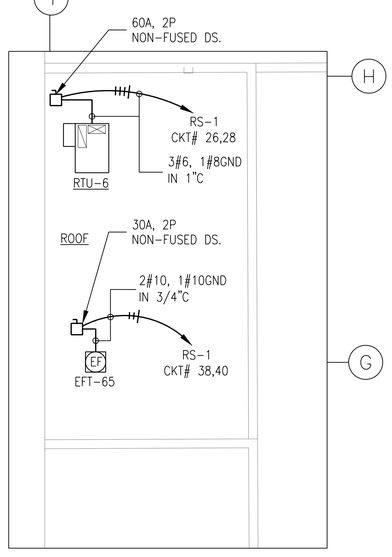
7 E-3 SERVER ROOM - AC-25 & RTU-2
SCALE: 1/8"=1'-0"



8 E-3 ROOF RTU-2 & ACC-25
SCALE: 1/8"=1'-0"



5 E-3 CLEANERS LOUNGE VAV-1, 2 & 3
SCALE: 1/8"=1'-0"



6 E-3 ROOF RTU-6
SCALE: 1/8"=1'-0"

NOTES:

1. SEE DRAWING E-2 FOR APPLICABLE NOTES.
2. HVAC EQUIPMENT LOCATIONS SHOWN ARE APPROXIMATE. SEE MECHANICAL DRAWINGS FOR THE EXACT LOCATIONS.
3. DISCONNECT AND REMOVE THE EXISTING (6) 20 AMP, 2 POLE BREAKERS IN PANEL RS-1 FEEDING EXISTING AC-6, AC-7, AC-8, ACC-6, ACC-7, ACC-8.
4. DISCONNECT AND REMOVE THE EXISTING 20 AMP, 2 POLE BREAKERS IN PANEL ELP1A FEEDING EXISTING RTU-2.

REVISION NUMBER	DATE	MADE BY	APP'D BY	REVISION

RECORD DRAWING CERTIFICATION

☐ AS BUILT – CHANGES AS NOTED
☐ AS BUILT – NO CHANGES

CONTRACTOR
NAME
SIGNATURE
TITLE DATE

PROJECT COORDINATOR
NAME
SIGNATURE
TITLE DATE

WESTCHESTER COUNTY, NEW YORK
DEPARTMENT OF PUBLIC WORKS
DIVISION OF ENGINEERING

CONTRACT NUMBER	SHEET NUMBER
E-3	22-524

SHEET NO. 19 OF 21

SCALE: AS SHOWN
DATE: 12/01/23

REPLACEMENT OF HVAC SYSTEMS AND ASSOCIATED WORK
BEE-LINE CENTRAL MAINTENANCE FACILITY (DOT-CMF)
475 SAW MILL RIVER ROAD, YONKERS, NEW YORK
CLEANER'S LOUNGE, SERVER ROOM AND ROOF PLANS

DPW FILE NO. 61-10-E-423
REV. NO. 0

IN CHARGE OF GARRY LYNCH
CHECKED BY MICHAEL DEFONCE
MADE BY LIJU JOSEPH

CP-2 (EXISTING)

CURRENT RATING:100A BUS MLO. VOLTAGE RATING: 120/208, 3ø, 4W,
PLUS GROUND BUS. BRANCH CIRCUIT BREAKERS RATING: 22KA RMS SYMMETRICAL.
ENCLOSURE: NEMA TYPE 1, SURFACE MOUNT. LOCKABLE
LOCATION: ROOM 214

DESCRIPTION	KW	CB AMP	CIR NO.	A B C	CIR NO.	CB AMP	KW	DESCRIPTION
AC-5A		20 2P	1		2	60 2P		ACC-5A
			3		4			
SPARE		20 2P	5		6	20 1P		CONDENSATE PUMP GFI RECEPTACLE
			7		8	20 1P		GFI SERVICE RECEPTACLE
			9		10			
			11		12			

1 / E-4 EXISTING PANEL CP-2
SCALE: NOT TO SCALE

CP-2A (NEW)

CURRENT RATING:100A BUS 100A MCB. VOLTAGE RATING: 120/208, 3ø, 4W,
PLUS GROUND BUS. BRANCH CIRCUIT BREAKERS RATING: 22KA RMS SYMMETRICAL.
ENCLOSURE: NEMA TYPE 1, SURFACE MOUNT. LOCKABLE
LOCATION: ROOM 214

DESCRIPTION	KW	CB AMP	CIR NO.	A B C	CIR NO.	CB AMP	KW	DESCRIPTION
AC-5B		20 2P	1		2	60 2P		ACC-5B
			3		4			
SPARE		20 2P	5		6	20 1P		CONDENSATE PUMP GFI RECEPTACLE
			7		8	20 1P		SPARE
			9		10			
			11		12			

2 / E-4 PANEL CP-2A
SCALE: NOT TO SCALE

HVAC-1 (NEW)

CURRENT RATING:100A BUS 100A MCB. VOLTAGE RATING: 120/208, 3ø, 4W,
PLUS GROUND BUS. BRANCH CIRCUIT BREAKERS RATING: 22KA RMS SYMMETRICAL.
ENCLOSURE: NEMA TYPE 1, SURFACE MOUNT. LOCKABLE
LOCATION: OUTSIDE ROOM 130

DESCRIPTION	KW	CB AMP	CIR NO.	A B C	CIR NO.	CB AMP	KW	DESCRIPTION
HUMIDIFIER		25 2P	1		2	30 2P		WATER HEATER
			3		4			
SPARE		20 2P	5		6	20 1P		SPARE
			7		8	20 1P		SPARE
			9		10			
			11		12			

3 / E-4 PANEL HVAC-1
SCALE: NOT TO SCALE

RS-1 (EXISTING)

CURRENT RATING:100A BUS MLO. VOLTAGE RATING: 120/208, 3ø, 4W,
PLUS GROUND BUS. BRANCH CIRCUIT BREAKERS RATING: 22KA RMS SYMMETRICAL.
ENCLOSURE: NEMA TYPE 1, SURFACE MOUNT. LOCKABLE
LOCATION: ROOM 151

DESCRIPTION	KW	CB AMP	CIR NO.	A B C	CIR NO.	CB AMP	KW	DESCRIPTION
EXISTING LOADS		20 1P	1		2	20 1P		EXISTING LOADS
EXISTING LOADS		20 1P	3		4	20 1P		EXISTING LOADS
EXISTING LOADS		20 1P	5		6	20 1P		EXISTING LOADS
EXISTING LOADS		20 1P	7		8	20 1P		EXISTING LOADS
EXISTING LOADS		20 1P	9		10	20 1P		EXISTING LOADS
EXISTING LOADS		20 1P	11		12	20 1P		EXISTING LOADS
EXISTING LOADS		20 1P	13		14	20 1P		EXISTING LOADS
EXISTING LOADS		20 1P	15		16	20 1P		EXISTING LOADS
EXISTING LOADS		20 1P	17		18	20 1P		EXISTING LOADS
EXISTING LOADS		20 1P	19		20	20 1P		EXISTING LOADS
EXISTING LOADS		20 1P	21		22	20 1P		EXISTING LOADS
EXISTING LOADS		30 1P	23		24	20 1P		EXISTING LOADS
VAV-1		60 2P	25		26	60 2P		RTU-6
			27		28			
VAV-2		60 2P	29		30	20 2P		UH-1
			31		32			
VAV-3		60 2P	33		34	40 2P		EXISTING LOADS
			35		36			
EXISTING LOADS		20 3P	37		38	20 2P		EXHAUST FAN EFT-65
			39		40			
			41		42	20 1P		EXISTING LOADS

4 / E-4 EXISTING PANEL RS-1
SCALE: NOT TO SCALE

LP-22 (EXISTING)

CURRENT RATING:225A BUS MLO. VOLTAGE RATING: 120/208, 3ø, 4W,
PLUS GROUND BUS. BRANCH CIRCUIT BREAKERS RATING: 22KA RMS SYMMETRICAL.
ENCLOSURE: NEMA TYPE 1, SURFACE MOUNT. LOCKABLE
LOCATION: LARGE PARTS STORAGE

DESCRIPTION	KW	CB AMP	CIR NO.	A B C	CIR NO.	CB AMP	KW	DESCRIPTION
EXISTING LOADS		20 1P	1		2			
EXISTING LOADS		20 1P	3		4	30 3P		EXISTING LOADS
EXISTING LOADS		20 1P	5		6			
EXISTING LOADS		30 1P	7		8			
EXISTING LOADS		20 1P	9		10	20 3P		EXISTING LOADS
EXISTING LOADS		20 1P	11		12			
EXISTING LOADS		70 3P	13		14			
			15		16	30 3P		EXISTING LOADS
			17		18			
EXISTING LOADS		20 1P	19		20			
ACC-2A		35 2P	21		22	35 3P		AC-2B
			23		24			
SPACE			25		26	20 1P		EXHAUST FAN EFT-64
EXISTING LOADS		20 1P	27		28	20 1P		GFI SERVICE RECEPTACLE
EXISTING LOADS		20 1P	29		30	20 1P		MOTORIZED DAMPER
EXISTING LOADS		20 1P	31		32	20 2P		AC-2A
EXISTING LOADS		20 1P	33		34			
SPACE			35		36			SPACE
SPACE			37		38	20 1P		EXISTING LOADS
EXISTING LOADS		60 2P	39		40	20 1P		EXISTING LOADS
			41		42			SPACE

5 / E-4 EXISTING PANEL LP-22
SCALE: NOT TO SCALE

ELP1A (EXISTING)

CURRENT RATING:200A BUS MLO. VOLTAGE RATING: 120/208, 3ø, 4W,
PLUS GROUND BUS. BRANCH CIRCUIT BREAKERS RATING: 22KA RMS SYMMETRICAL.
ENCLOSURE: NEMA TYPE 1, FLUSH MOUNT. LOCKABLE
LOCATION: CORRIDOR NEAR ROOM 162

DESCRIPTION	KW	CB AMP	CIR NO.	A B C	CIR NO.	CB AMP	KW	DESCRIPTION
EXISTING LOADS		20 1P	1		2	20 1P		EXISTING LOADS
EXISTING LOADS		20 1P	3		4	20 1P		EXISTING LOADS
EXISTING LOADS		20 1P	5		6	20 1P		EXISTING LOADS
EXISTING LOADS		30 1P	7		8	20 1P		EXISTING LOADS
EXISTING LOADS		20 1P	9		10	20 1P		EXISTING LOADS
EXISTING LOADS		20 1P	11		12	20 1P		EXISTING LOADS
EXISTING LOADS		20 1P	13		14	20 1P		SPARE
EXISTING LOADS		20 1P	15		16	20 1P		SPARE
RTU-2		30 2P	17		18	20 1P		SPARE
			19		20	20 1P		EXISTING LOADS
EXISTING LOADS		20 1P	21		22	20 1P		EXISTING LOADS
EXISTING LOADS		20 1P	23		24	20 1P		EXISTING LOADS
EXISTING LOADS		20 1P	25		26	20 1P		EXISTING LOADS
EXISTING LOADS		20 1P	27		28	20 1P		EXISTING LOADS
EXISTING LOADS		20 1P	29		30	20 1P		EXISTING LOADS
EXISTING LOADS		20 1P	31		32	20 1P		EXISTING LOADS
EXISTING LOADS		20 1P	33		34	20 1P		EXISTING LOADS
EXISTING LOADS		20 1P	35		36	20 1P		EXISTING LOADS
EXISTING LOADS		20 1P	37		38	20 1P		EXISTING LOADS
EXISTING LOADS		20 1P	39		40	20 1P		EXISTING LOADS
EXISTING LOADS		20 1P	41		42	20 1P		SPARE

6 / E-4 EXISTING PANEL ELP1A
SCALE: NOT TO SCALE

ELP1B (EXISTING)

CURRENT RATING:200A BUS MLO. VOLTAGE RATING: 120/208, 3ø, 4W,
PLUS GROUND BUS. BRANCH CIRCUIT BREAKERS RATING: 22KA RMS SYMMETRICAL.
ENCLOSURE: NEMA TYPE 1, FLUSH MOUNT. LOCKABLE
LOCATION: ROOM 157

DESCRIPTION	KW	CB AMP	CIR NO.	A B C	CIR NO.	CB AMP	KW	DESCRIPTION
EXISTING LOADS		20 1P	1		2	20 1P		EXISTING LOADS
EXISTING LOADS		20 1P	3		4	20 1P		SPARE
EXISTING LOADS		20 1P	5		6	20 1P		SPARE
SPARE		30 1P	7		8	20 1P		SPARE
SPARE		20 1P	9		10	20 1P		EXISTING LOADS
SPARE		20 1P	11		12	20 1P		EXISTING LOADS
SPARE		20 1P	13		14	20 1P		SPARE
EXISTING LOADS		20 1P	15		16	20 1P		SPARE
EXISTING LOADS		20 1P	17		18	20 1P		EXISTING LOADS
SPARE		20 1P	19		20	20 2P		ACC-25
EXISTING LOADS		20 1P	21		22			
EXISTING LOADS		20 1P	23		24	20 1P		CONDENSATE PUMP GFI RECEPTACLE
SPARE		20 1P	25		26	20 1P		GFI SERVICE RECEPTACLE
EXISTING LOADS		20 1P	27		28	20 1P		SPARE
EXISTING LOADS		20 1P	29		30	20 1P		SPARE
EXISTING LOADS		20 1P	31		32	20 1P		SPARE
EXISTING LOADS		20 1P	33		34	20 3P		EXISTING LOADS
EXISTING LOADS		20 1P	35		36			
EXISTING LOADS		20 1P	37		38	30 3P		EXISTING LOADS
SPARE		20 1P	39		40			
SPARE		20 1P	41		42			

7 / E-4 EXISTING PANEL ELP1B
SCALE: NOT TO SCALE

REVISION NUMBER	DATE	MADE BY	APP'D BY	REVISION

RECORD DRAWING CERTIFICATION

☐ AS BUILT – CHANGES AS NOTED
☐ AS BUILT – NO CHANGES

CONTRACTOR
NAME
SIGNATURE
TITLE DATE

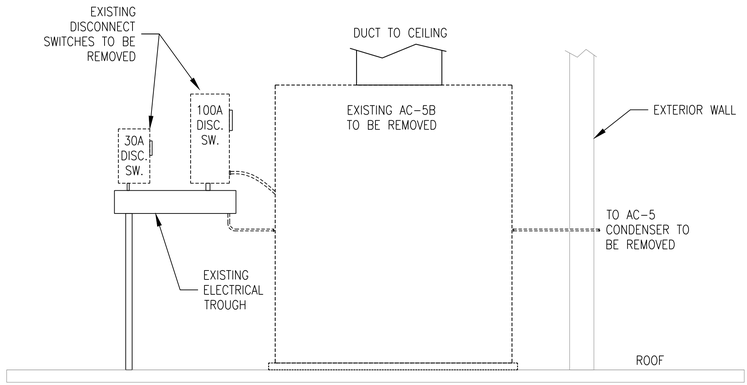
PROJECT COORDINATOR
NAME
SIGNATURE
TITLE DATE

WESTCHESTER COUNTY, NEW YORK
DEPARTMENT OF PUBLIC WORKS
DIVISION OF ENGINEERING

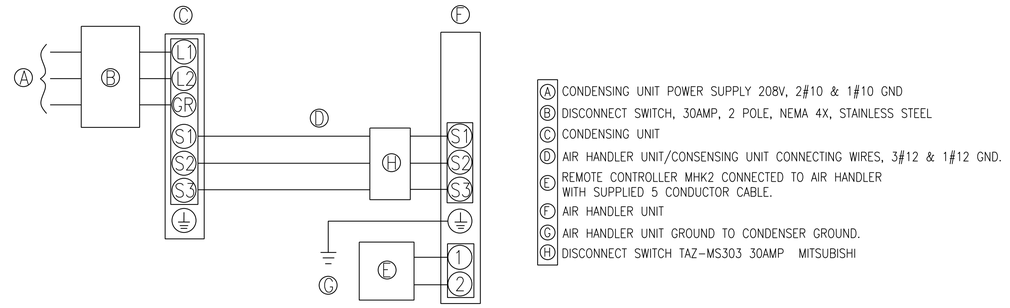
CONTRACT NUMBER: E-4
SHEET NUMBER: 22-524
SHEET NO. 20 OF 21
SCALE: AS SHOWN
DATE: 12/01/23
DPW FILE NO.: 61-10-E-424
REV. NO.: 0

REPLACEMENT OF HVAC SYSTEMS AND ASSOCIATED WORK
BEE-LINE CENTRAL MAINTENANCE FACILITY (DOT-CMF)
475 SAW MILL RIVER ROAD, YONKERS, NEW YORK
PANEL SCHEDULES

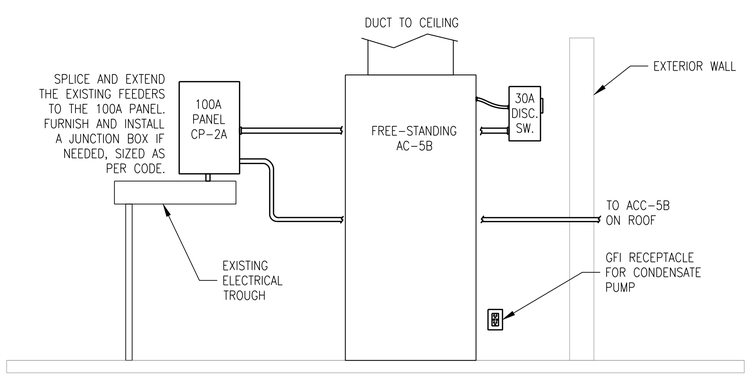
IN CHARGE OF GARRY LYNCH
CHECKED BY MICHAEL DEFONCE
MADE BY LIJU JOSEPH



1 E-5 **EXISTING ELEVATION A-A**
SCALE: NOT TO SCALE ROOM 214

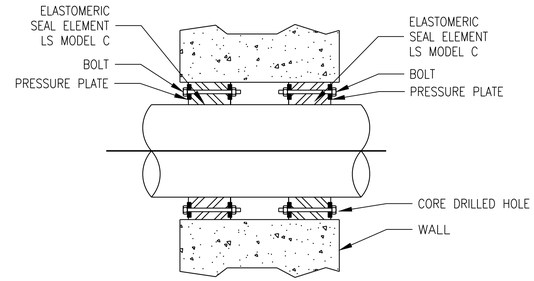


2 E-5 **SPLIT AC WIRING- ACC-25**
SCALE: NOT TO SCALE



3 E-5 **NEW ELEVATION A-A**
SCALE: NOT TO SCALE ROOM 214

LINK-SEAL® MODULAR SEALS WITH CORE DRILLED WALL OPENING
MANUFACTURED BY PIPELINE SEAL & INSULATOR, INC.
HOUSTON, TEXAS, U.S.A. TEL: 800-423-2410 E-MAIL: INFO@PSIPSI.COM



LS Model	Seal Element	Bolts/Nuts	Pressure Plate
C	EPDM (Black)	Zinc Dichromate/Organic Coated Carbon Steel Bolt	Reinforced Nylon Polymer

4 E-5 **WALL PENETRATION DETAIL**
SCALE: NOT TO SCALE

IN CHARGE OF GARRY LYNCH
CHECKED BY MICHAEL DEFONCE
MADE BY LIJU JOSEPH

REVISION NUMBER	DATE	MADE BY	APP'D BY	REVISION

RECORD DRAWING CERTIFICATION

☐ AS BUILT – CHANGES AS NOTED
☐ AS BUILT – NO CHANGES

CONTRACTOR
NAME
SIGNATURE
TITLE DATE

PROJECT COORDINATOR
NAME
SIGNATURE
TITLE DATE

WESTCHESTER COUNTY, NEW YORK
DEPARTMENT OF PUBLIC WORKS
DIVISION OF ENGINEERING

REPLACEMENT OF HVAC SYSTEMS AND ASSOCIATED WORK
BEE-LINE CENTRAL MAINTENANCE FACILITY (DOT-CMF)
475 SAW MILL RIVER ROAD, YONKERS, NEW YORK
DETAILS AND ELEVATIONS

CONTRACT NUMBER: E-5
SHEET NUMBER: 22-524
SHEET NO. 21 OF 21
SCALE: AS SHOWN
DATE: 12/01/23
DPW FILE NO.: 61-10-E-425
REV. NO.: 0